Atwood Mobile Products[®] 2007 Training Manuals

Water Heaters, Ranges, Furnaces, and Hardware



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Atwood 2007 Training Manuals

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Atwood Warranty/Flate Rate Schedule/Return Goods Program Table of Contents

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Atwood[®] Water Heater Limited Warranty

Atwood Mobile Products warrants to the original owner and subject to the below mentioned conditions, that this product will be free of defects in material or workmanship for a period of two years from the original date of purchase. Atwood's liability hereunder is limited to the replacement of the product, repair of the product, or replacement of the product with a reconditioned product at the discretion of the manufacturer. This warranty is void if the product has been damaged by accident, unreasonable use, neglect, tampering or other causes not arising from defects in material workmanship. This warranty extends to the original owner of the product only and is subject to the following conditions:

- 1. For a period of two years from the date of purchase, Atwood will replace the complete water heater if the inner tank leaks due to corrosion. This warranty includes reasonable labor charges required to replace the complete water heater.
- 2. For two years from the date of purchase, Atwood will repair or replace any part defective in material or workmanship. This warranty includes reasonable labor charges, required to remove and replace the part. Service calls to customer's location are not considered part of these charges and are, therefore, the responsibility of the owner.
- 3. This warranty does not cover the following items classified as normal maintenance:
 - a. adjustment of gas pressure
 - b. cleaning or replacement of burner orifice
 - c. cleaning or adjustment of burner tube
 - d. cleaning or adjustment of flue
 - e. cleaning or adjustment of pilot and thermocouple
 - f. adjustment of pressure-temperature relief valve
 - g. replacement of thermal cut-off device.
- 4. In the event of a warranty claim, the owner must contact, in advance, either an authorized Atwood Service Center or the Atwood Service Department. Warranty claim service must be performed at an authorized Atwood Service Center (a list will be provided at no charge) or as approved by the Consumer Service Department, Atwood Mobile Products, 1120 North Main St., Elkhart, IN 46514 USA. Phone: (866-869-3118).
- 5. Return parts (or water heater) must be shipped to Atwood "Prepaid". Credit for shipping costs will be included with the warranty claim. The defective parts (or water heater) become the property of Atwood Mobile Products and must be returned to the Consumer Service Department, Atwood Mobile Products, 6320 Kelly Willis Road, Greenbrier, TN 37073 USA.
- This warranty applies only if the unit is installed according to the installation instructions provided and complies with local and state codes.
- 7. The warranty period on replacement parts (or water heater) is the unused portion of the original warranty period or ninety (90) days, whichever is greater.
- Damage or failure resulting from misuse (including failure to seek proper repair service), misapplication, alterations, water damage, or freezing are the owner's responsibility.
- 9. Atwood does not assume responsibility for any loss of use of vehicle, loss of time, inconvenience, expense for gasoline, telephone, travel, lodging, loss or damage to personal property or revenues. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you.
- 10. Any implied warranties are limited to two (2) years. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you. This warranty gives you specific legal rights and you may also have other rights which vary from state to state.
- 11. Replacement parts (components or tanks) purchased outside of the original water heater warranty carry a 90 day warranty. This includes the part at no charge and reasonable labor charges to replace it.

This Atwood heater is designed for use in recreational vehicles for the purpose of heating water as stated in the "data plate" attached to the water heater. Any other use, unless authorized in writing by the Atwood Engineering Department, voids this warranty.

Atwood[®] Cooking Appliance Limited Warranty

Atwood Mobile Products warrants to the original owner and subject to the below mentioned conditions, that this product will be free of defects in material or workmanship for a period of two years from the original date of purchase. Atwood's liability hereunder is limited to the replacement of the product, repair of the product, or replacement of the product with a reconditioned product at the discretion of Atwood Mobile Products. This warranty is void if the product has been damaged by accident, unreasonable use, neglect, tampering or other causes not arising from defects in material workmanship. This warranty extends to the original owner of the product only and is subject to the following conditions:

- For two years from the date of the original purchase Atwood warrants that this product will be free of defects in material and workmanship with the exceptions noted below. This warranty includes reasonable labor charges required to remove and replace the part. Service calls to the customer's location are not considered part of these charges and are therefore the responsibility of the owner.
- 2. This warranty does not cover the following items classified as normal maintenance and/or customer damage.
 - a. Damage, discoloration or scratches to porcelain enamel or other finishes from improper use and care.
 - b. adjustment of gas pressure
 - c. cleaning or adjustment of any burners
 - d. cleaning or replacement of burner orifices
 - e. cleaning or adjustment of pilot and thermocouple
 - f. damage to glass
 - g. products purchased for commercial or industrial use.
- 3. In the event of warranty claim the owner must contact in advance either an authorized Atwood Service Station or the Atwood Service Department. Warranty claim service must be performed at an authorized Atwood Service Station (a list will be provided at no charge) or as approved by the Atwood Service Department Atwood Mobile Products, 1120 North Main St., Elkhart, IN 46514 USA. Phone 866-869-3118.
- 4. Return parts must be shipped to Atwood Mobile Products "prepaid". Credit for shipping costs will be included with the warranty claim. The defective parts become the property of Atwood Mobile Products and must be returned to the Consumer Service Department, Atwood Mobile Products, Greenbrier Operations, 6320 Kelly Willis Road, Greenbrier, TN 37073 USA.
- This warranty applies only if the unit is installed according to the installation instructions provided and complies with local and state codes.
- 6. The warranty on replacement parts is the unused portion of the original warranty period.
- Damage or failure resulting from misuse (including failure to seek proper repair service) misapplication, alterations, water damage or freezing are owner's responsibility.
- 8. Atwood does not assume responsibility for any loss of use of vehicle, loss of time, inconvenience, expense for gasoline, telephone, travel, lodging, loss or damage to personal property or revenues. Some States do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you.
- 9. Any implied warranties are limited to two (2) years. Some States do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you. This warranty gives you specific legal rights and you may also have other rights, which may vary, from state to state.
- Replacement parts purchased outside the original cooking warranty carry a 90 day warranty. This includes the part at no charge and reasonable labor charges to replace it.

This Atwood product is designed for use in recreation vehicles for the purpose as stated in the 'data plate'. Any other use, unless authorized in writing by the Atwood Engineering Department, voids the warranty. Atwood/Wedgewood Vision Products include range/oven, drop-in, slide-in and high pressure stoves.

Atwood[®] *hydro flame*[®] Furnace Limited Warranty

Atwood Mobile Products warrants to the original owner and subject to the below mentioned conditions, that this product will be free of defects in material or workmanship for a period of two years from the original date of purchase. Atwood's liability hereunder is limited to the replacement of the product, repair of the product, or replacement of the product with a reconditioned product at the discretion of Atwood Mobile Products. This warranty is void if the product has been damaged by accident, unreasonable use, neglect, tampering or other causes not arising from defects in material workmanship. This warranty extends to the original owner of the product only and is subject to the following conditions:

- For two years from the date of purchase, Atwood will repair or replace any part defective in material or workmanship. This warranty includes reasonable labor charges required to remove and replace the part. Service calls to customer's location are not considered part of these charges and are, therefore, the responsibility of the owner.
- 2. This warranty does not cover the following items classified as normal maintenance:

ADJUSTING - gas pressure, voltage, loose wire connections, and/or thermostat heat anticipator

CLEANING - air wheels, burner and/or burner orifice

CLEANING OR ADJUSTING - heat chamber, heat ducting, return air opening, and/or exhaust tubes

- 3. In the event of a warranty claim, the owner must contact, in advance, either an authorized Atwood Service Center or the Atwood Service Department. Warranty claim service must be performed at an authorized Atwood Service Center (a list will be provided at no charge) or as approved by the Consumer Service Department, Atwood Mobile Products, 1129 North Main Street, Elkhart, IN 46514 USA. Phone: 866-869-3118
- 4. RETURN PARTS MUST BE SHIPPED TO ATWOOD "PREPAID". Credit for shipping costs will be included with the warranty claim. The defective parts become the property of Atwood Mobile Products and must be returned to the Quality Assurance Dept., Salt Lake City Operations, 1874 South Pioneer Road, Salt Lake City, Utah 84104 USA.
- This warranty applies only if the unit is installed according to the installation instructions provided and complies with local and state codes.
- 6. The warranty period on replacement parts is the unused portion of the original warranty period.
- Damage or failure resulting from misuse (including failure to seek proper repair service), misapplication, alterations, water damage, freezing or not using genuine Atwood parts are the owner's responsibility.
- 8. Atwood does not assume responsibility for any loss of use of vehicle, loss of time, inconvenience, expense for gasoline, telephone, travel, lodging, loss or damage to personal property or revenues. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you.

9 Any implied warranties are limited to (2) two years. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you. This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

10. Replacement parts purchased outside of the original furnace warranty carry a 90 day warranty. This includes the part at no charge and reasonable labor charges to replace it.

This hydro flame furnace is designed for use in recreation vehicles for the purpose of heating air as stated in the "data plate" attached to furnace. Any other use, unless authorized in writing by the Atwood Engineering Department, voids this warranty.

Atwood[®] *hydro flame*[®] Furnace Extended Service Contract

TERMS AND PROVISIONS:

- Written approval by Atwood must be obtained prior to having any repairs made or parts replaced under these Warranties at other than an Atwood Authorized Service Center. A list can be obtained by calling 1-866-869-3118. Any such unauthorized charges will not be paid by Atwood.
- 2. Air freight or postage charges shall be borne by party claiming under Warranties. The Original Purchaser shall have the full responsibility of making the furnace or RV available for repair or replacement at Atwood Mobile Products, Salt Lake Operations or at an Atwood Authorized Service Center. Service calls are not covered under the normal two year warranty.
- Atwood's Authorized Service Centers are neither agents nor employees of Atwood and at all times will be acting as independent contractors with the Original Purchaser. Atwood will reimburse service centers for warranty service rendered on a direct basis only.
- 4. Repairs, replacement parts and or furnace replacement authorized by Atwood shall be subject to the remainder of the warranty, if any of the aforesaid two year period.

Exclusions (specifically excluded from the warranties)

- 1. Incidental or consequential damages.
- 2. Damaged caused by shipment.
- 3. Damage resulting from improper installation, misuse, neglect, accident or use in violation of instructions furnished by Atwood Mobile Products.
- 4. Equipment and parts which have been altered in any way whatsoever without written authorization from Atwood Mobile Products.
- 5. All repairs and replacement parts not authorized by Atwood Mobile Products.
- 6. Preventative maintenance.

Limitations

- 1. The maximum liability of Atwood Mobile Products in connection with this limited warranty shall not in any event exceed the original price paid for the furnace claimed to be defective or unsuitable.
- 2. Components manufactured by any supplier other than Atwood Mobile Products shall bear only that warranty made by the manufacturer or supplier of that product.

3/97

Atwood[®] Hardware Product Limited Warranty

Atwood Mobile Products warrants to the retail owner and subject to the below mentioned conditions, that this product will be free of defects in material or workmanship for a period of two years from the original date of purchase. Atwood's liability hereunder is limited to the replacement of the product, repair of the product, or replacement of the product with a reconditioned product at the discretion of the manufacturer. This warranty is void if the product has been damaged by accident, unreasonable use, neglect, tampering or other causes not arising from defects in material or workmanship. This warranty extends to the original owner of the product only and is subject to the following conditions:

- For two (2) years commencing with the date of purchase, Atwood will provide the replacement or repair of any Hardware System found to be defective by Atwood in material or workmanship.
- 2. Replacement parts purchased outside the original hardware warranty carry a 90 day warranty. This includes the part at no charge and reasonable labor charges to replace it.
- 3. In the event of a warranty claim, the original owner must contact the Atwood Consumer Service Department, 1120 North Main, Elkhart, IN 46514 USA. Phone: (866-869-3118). Warranty Claim Service must be performed as approved by the Atwood Consumer Service Department. Warranty replacement hardware systems and components or parts will be furnished freight prepaid labor cost to repair or replace will be limited to the amount of the original purchase price of the systems and components. The replaced warranty products or parts become the property of Atwood Mobile Products and must be returned to the Atwood Consumer Service Department freight prepaid, unless prior arrangements have been made.
- 4. This limited warrant is valid only when the product is applied, installed, maintained and operated in accordance with this Atwood Installation Maintenance and Operating Manual. Any deviation from these recommended specifications must be approved in writing by Atwood.
- 6. ANY IMPLIED WARRANTIES arising by way of State Law, including any implied warranty of merchantability and any implied warranty of fitness for a particular purpose are limited in duration to the term of this Limited Warranty. Atwood makes no further warranty of any nature beyond this Limited Warranty. No person has authority to enlarge, amend or modify this Limited Warranty.

10/07





INTERNET: http://www.atwoodmobile.com

Water Heaters

2/9/07

TIME ALLOWANCE SCHEDULE in hours

Replacement of:	Standard Pilot Model	Electronic Ignition Model
Access Door		.30
Circuit Board	N/A	.50
Complete Water Heater	1.50	1.75 *
Drain Valve or Plug		.30 *
Electric On-Off Switch	N/A	.50 *
Heating Element	1.00*	1.00 *
Inner Tank	2.00	2.30
Main Burner		.50
Mixing Valve	N/A	.50
Wall Switch	N/A	.75
Pilot Assembly	.50	N/A
Pilot Ignitor Module	.50	N/A
Pressure-Temp. Relief Valve		.50 *
Relay	N/A	.50 *
Solenoid Valve	N/A	.50
Spark & Probe Assembly	N/A	.50
Thermal Cut Off	N/A	.30
Thermostat & E.C.O.	N/A	.50 *
Thermostat-electric	.50	.50
Thermostat-gas	1.00	N/A

* indicates time allowed for Electric/Marine units

Note: Warranty claims must be filed and received within six months from the date of repair. Claims received beyond this time frame will not be considered for warranty payment.

All flat rates include diagnostic time and when applicable, gas leak test.

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TIME ALLOWANCE SCHEDULE in hours

	RA 33 RA 32	RV 33 RV 32	CV 33 CA 33 CV 32	DV-30 DV-20
			CA 31	
Complete Unit	1.0		.7	.5
Bifold Cover	.2	.2		
Burner Head	.3		.3	.3
Burner Head Electrode	.3	.3	.3	.3
Burner, Oven	.3			
Cover, Manifold	.6*		.4*	.4*
Handle	.2	.2		
Hinge, Door	.5	.5		
Ignition Module			.7	
Ignition Switch				
Öven Control (Thermostat)				
Oven Door	.3	.3		
Maintop	.2	.2	.2	.2
Manifold, Pipe	.5		.5	.5
Piezo Igniter	.5		.5	
Regulator	.5*		.5	.5
Safety Valve/Pilot Assembly	.5			
Seal	.3	.3		
Spring, Hinge	.3			
Trim, Bottom	.6*			
Trim, Maintop, LH/RH	.9*	.9*	.6*	
Trim, Vent Top			.5*	
Valve, Burner	.6		.6	
All Other Parts			.5	.5

* indicates 0.5 hours will be allowed to remove and install the appliance. If two or more parts are replaced on the same appliance during the repair, the R & R allowance to remove the appliance will be applied to only one part.

NO LABOR IS ALLOWED TO CHANGE KNOBS

Above time allowances include all operations involved in the diagnosis, location and replacement of part. Also, included is the time required to remove and replace any part or assembly that is in the path of a part being replaced and gas leak test when applicable.

Note: Warranty claims must be filed and received within six months from the date of repair. Claims received beyond this time frame will not be considered for warranty payment.

11/28/06



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TIME SCHE

hydro flametm **Furnaces** AND Detectors

Flat Rate Schedule

ALLOWANCE					11/28/06
EDULE in hours	85 IV 1522 & 2334	DC89 III 2540	AC89 III	8012 II	79 II
Complete FURNACE	1.00	1.00	1.00	1.00	1.00
Air Box Extension					
Air Wheel (Circulating)		75		1.00	1.00
Air Wheel (Combustion)	1.00	1.00	1.00	1.00	1.00
Blower Housing		50			
Burner		60			
Burner Box		70			
Burner Plate		-			
Burner Plate Gasket					
Casing	1.00	1.00	1.00	1.50	1.50
Circuit Breaker					
Combustion Chamber	1.50	1.50	1.50	1.50	1.50
Door	.70	.70		.30	
Draft Cap	.30	.30			
Circuit Board	.70	.70			
Circuit Board Bracket	.70	.70			
Electrode	.60	.60			
Exhaust Tube				70	70
Gasket Comb Chamber	1 50	1 50	1 50		
Gasket Electrode	60	60	60	70	70
High Tension Lead	50	50	50	50	50
Limit Switch	90	90	90	60	60
Manifold Inlet	75	75	75		
Manifold Outlet	75	75	75	1 00	1 00
Motor	1 00	1 00	1 15	1 15	1 15
Motor Bracket	1 15	1 15	1 15		
Motor Capacitor			50		
Motor Mounting Wall	1 50	1 50	1 50		
Orifice (Burner)	60	60	60	80	80
Belav	50	50	50	60	60
Sail Switch	60	60	60	1 00	1 00
Thermostat	50	50	50	50	50
Transformer					
Valve	80	80	80	1 00	1 00
Valve Bracket	80	80	80	1 00	1 00
Valve Coil	70	70	70	50	50
Wiring Harness	1.00	1.00	1.00	1.00	1.00
Complete DETECTORS			-		1
Complete CONVERTER	۱۰۰۱، ۱.۰۰۰ 1.00 م. ۱.۰۰	f more then one	ronair ia dana 😁	nue 10 far aach	additional ranair
Breaker Stab Assembly	50 1) 1				auunuonai repair
DC Euso Roard	50 Z) A	an flat rates inclu	de diagnostic tim	e and when applic	cable, gas leak te
		dditional .50 hrs	for removal and	replacement of de	oor less furnace
		LD models).			
Neutral/Ground Bars		Varranty claims r	must he filed and	received within si	x months from

4) Warranty claims must be filed and received within six months from the date of repair. Claims received beyond this time frame will not be considered for warranty payment.





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TIME ALLOWANCE SCHEDULE in hours

BRAKE SYSTEM

Complete Actuator:	
Bolt On	1.00
Weld On	2.00
Master Cylinder	1.00
Push Rod Assembly	75
Shock Absorber	50
Shoulder Bolt	50
Release Handle	1.00
Stop Spring	50
Foundation Brakes (per axle)	1.50
Shoe & Lining (per axle)	1.50
Wheel Cylinder (per axle)	1.50

COUPLER

Comp	lete	Coupl	er:

Bolt On	50
Weld On	1.50
Latch (2" or 2 5/16")	1.00

DURALEG™

Circuit Board	.50
Key Pad	.50
Complete Jack Leg (per leg)	.75

5TH WHEEL LANDING LEG*

Both Legs**	1.50
One (1) Leg**	.75
Bevel Gears (per Leg)	.75
Сар	.25
Gear Box	.75
Motor	.50
Switch	.50

* Inner ram not available, replace appropriate leg.

** Flat rate pertains to landing gear that are accessible on outside of 5th wheel. If landing gear are buried in belly of 5th wheel, it may require more time.

LEVELEGS™

Front Levelegs (per leg)	5
Rear Levelegs (per leg) 1.0	0
Relay Control	5
Key Pad	5
ate times include the resetting of the auto sequence	

* rate times include the resetting of the auto sequence.

Flat Rate Schedule

1/24/07

BALL SCREW CAMPER JACK*

Electric:

Hardware

Electric.	
Complete Jack	.50
Bevel Gears1	.50
Brackets	.50
Cover Top-Bottom	.25
Motor	.75
Motor Switch	.50
2-Way/4-Way Plug	.50
Relay Control Module1	.00
Activation Switch	.50
Manual:	
Complete Jack	.50
for each add'I jack add	.25
Cover	.25
Bevel Gears	.75
Brackets	.50
POWFR JACK*	
Complete Jack	50
Cover	.00
l ens	.20
Light Socket	.25
Light Switch	.20
Motor	50
Motor Switch	.00
	.20
SIDE WIND JACK*	
Complete Jack:	
Bolt On	.50
Weld On	.50
Bevel Gears	.50
Cover	.50
Handle	.50
STABILIZER JACK*	
Complete Jack	.50
Complete leak	
	۲ 0
DUIL UII	00.
VVEID UII	0.01

oompiele Jack.	
Bolt On	50
Weld On	1.00
Bearing	1.00
Handle	

Note: Warranty claims must be filed and received within six months from the date of repair. Claims received beyond this time frame will not be considered for warranty payment. All flat rates include diagnostic time.

ATWOOD RETURN GOODS PROGRAM

WARRANTY RETURNS - The Warranty Program, Must Return Parts List and approved Flat Rate Schedule; (by product line) provide the framework for Warranty Returns.

NON- DEFECTIVE RETURNS - A restocking fee (by product line) will be charged for handling overstock returns or standard stock items ordered incorrectly by the customer. The product must be received in resalable condition. Product that has been specifically designed at the customer's request is non-returnable. Obsolete or out-dated product will not be accepted for credit.

DEFECTIVE RETURNS - Within 30 days of sale, defective returns are to be shipped back to the respective manufacturing facility for Problem Cause Analysis (PCA).

ALL WARRANTY RETURNS - If the PCA determines Atwood is responsible, full credit will be issued. If the PCA determines the customer is responsible, partial or no credit will be issued at Atwood's discretion.

SHIPPING DAMAGE - Once the product has been accepted at your facility, it is the customer's responsibility to file the damage claim with the carrier.

RETURN PARTS - Before returning any part to Atwood a Returned Goods Number (RGN) must be obtained by calling Atwood Mobile Product Service Department at 800-825-4328.

SHIPPING - If the PCA determines Atwood is responsible for the disposition of a defective and/or warranted part, reasonable shipping charges are reimbursed. All products not shipped via Atwood trucks should be shipped prepaid via UPS Ground when able (unless negotiated at the time the RGN is given). **No collect shipments will be accepted.**

PACKAGING - The RGN # must be identified on each container and all packing information. Product returned must be packaged to prevent shipping damage. Full credit will not be issued on product sent back in an open skid or improperly packaged. Additional product boxes are available upon request when applicable. Warranty Claims must be submitted to the correct division.

MUST RETURN PARTS LIST - Atwood requires the defective part to be returned with the warranty claims form. Failure to accompany your claim with the part will result in the non-shipment of a replacement part, or the non-processing of the appropriate credit until the part is received by Atwood.

Before returning the part, a RGN (Returned Goods Number) must be obtained by calling the Atwood Service Department at 800-825-4328. This RGN # is required for all products. Without this RGN # appearing on the outside of the shipping carton, the shipment will be refused at our Receiving Department.

PARTS MUST BE RETURNED TO THE CORRECT DIVISION

Jacks, Couplers, 5th Wheel, Leveling, Braking Systems & Excel Type RV Window Assemblies Atwood Mobile Products 800 Highway 150 South

West Union IA 52175

Water Heaters, Ranges, Ovens, Slide-ins & Drop-Ins Atwood Mobile Products 6320 Kelly Willis Road Greenbrier TN 37073

Furnace, LP & CO Detectors,

Converters & Distribution Panels Atwood Mobile Products Salt Lake City Operations 1874 South Pioneer Road Salt Lake City UT 84104

Glass

Spec-Temp 5406 U.S 24 Antwerp OH 45813 Creation Brand Mfg. Housing Windows & Doors & RV Windows Atwood Mobile Products Plant 1 53061 Ada Drive Elkhart IN 46515

Mass Transit Window Assemblies Lawrenceburg Operations 2200 Helton Dr. Lawrenceburg TN 38464

Heavy Truck Window Assemblies

Queretaro MX Operations Fracc Ind. San Pedrito Santiago de Queretaro Queretaro, Mexico C.P. 76148

Seating Products & RV Doors

Atwood Mobile Products 57912 Charlotte Avenue Elkhart IN 46517

MUST RETURN PARTS LIST

Hardware

Actuators All 5th wheel items Couplers Foundation brakes Jacks Levelegs Master cylinders Power jacks Power jack motor Shock absorbers

Water Heater

Circuit boards Complete water heaters E.C.O. & thermostat kits Electric thermostats Gas solenoid valves Gas thermostat valves Heating elements Inner tanks Pilot assemblies Pressure temperature relief valves Spark probe assemblies Thermal cut-offs

Range, Oven, Slide-In & Drop-In (cook-tops)

- 12 volt ignition module Burners with ignition Burner valves Complete ranges (by approval only) Oven thermostats Regulators Safety pilot valves
- Furnace, Detectors, Converters & Distribution Panels
- All parts

Seating Products & RV Doors All parts

FOR EFFICIENT PROCESSING OF CLAIM

- 1. CALL for RGN # 800-825-4328 West Union WINDOWS - 563-422-5641 Lawenceburg WINDOWS - 931-762-2090 Mexico WINDOWS - 011-52-442-211-7500
- 2. **COMPLETE** Warranty Service Report form.
- 3. Clearly MARK THE PART with the RGN #.
- 4. **PACKAGE** defective part, **INCLUDE** the Warranty Service Report.
- 5. Clearly MARK THE OUTSIDE OF THE PACKAGE with the RGN #.
- 6. SEND THE PART TO THE CORRECT DIVISION of Atwood Mobile Products.



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EFFECTIVE 2/21/07

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G10B, G10C / G610-3B, GH610-3 / G4SM / G6A-2, G6A-3, G6A-6, G6A-6P, G6A-7, G6A-7P / GC6A, GC6A-3,	
GC6A-6, GC6A-7 / GH6-3, GH6-6, GH6-7 / GC6AA-7, GC6AA-7P / GC6AA-8, GC6AA-8P / G610-3,	
GC10-1, GC10-2, GC10-2P / GC10A-2 / GC10A-2P / G10-1, G10-1P, G10-2, G10-2P	
Electronic Ignition Water Heater Parts Breakdown	33-36
Replacement Part Reference	
- G610-3E. GH610-3E / GCH6-4E. GCH6-6E. / GC6A-7E / GC6AA-7E / GC6AA-8E / GC6AA-9E. GC6AA-10E	
G6A-2E, G6A-3E, G6A-4E, G6A-6E, G6A-7E, G6A-8E / G6A-3E, GH6-3E / GH6-4E, GH6-6E, GH6-7E,	
GH6-8E / GCH6A-7E, GCH6A-8E, GCH6A-9E / GCH6A-10E / GCH10A-2E, GCH10A-3E / GCH10-4E / G10-1E /	
GH10-2E, GH10-3E / GC10-1E, GC10-2E / GC10A-2E / GC10A-3E / GC10A-4E	
• XT Water Heater	
10 Gal XT Water Heater Replacement Valve Kit	
Parts Reference	
Wiring Diagram	
Service Tank Kit Part Numbers	
Marine Water Heater Parts Breakdown	41



Atwood LP Gas Water Heaters

PART #	MODEL#	DESCRIPTION
96110	G6A-7	6 GAL. GAS - PILOT
	G6A-7P	6 GAL. GAS - PILOT RELIGHT
96117	GC6AA-8	6 GAL. GAS/ELECTRIC - PILOT
	GC6AA-10E	6 GAL. GAS/ELECTRIC - DSI
96163	GCH6A-10E	6 GAL. GAS/ELECTRIC - HEAT EXCHANGER - DSI
96121	G6A-8E	6 GAL. GAS - DSI
96136	GH6-8E	6 GAL. GAS - HEAT EXCHANGER - DSI
90073	G9-EXT	6 GAL. GAS - DSI - EXOTHERMAL
90071	GE9-EXT	6 GAL. GAS/ELECTRIC - DSI - EXOTHERMAL
90068	GEH9-EXT	6 GAL. GAS/ELECTRIC - HEAT EXCHANGER - DSI - EXOTHERMAL
94180	G10-2	10 GAL GAS - PILOT
94186	GC10A-2	10 GAL GAS/ELECTRIC - PILOT
94191	G10-3E	10 GAL GAS - DSI
	GH10-3E	10 GAL GAS - HEAT EXCHANGER - DSI
94022	GC10A-4E	10 GAL GAS/ELECTRIC - DSI - EXOTHERMAL
94023	GCH10A-4E	10 GAL GAS/ELECTRIC - HEAT EXCHANGER - DSI - EXOTHERMAL
94105	G16-EXT	10 GAL GAS - DSI - EXOTHERMAL
94026	GE16-EXT	10 GAL GAS/ELECTRIC - DSI - EXOTHERMAL
94029	GEH16-EXT	10 GAL GAS/ELECTRIC - HEAT EXCHANGER - DSI - EXOTHERMAL

MARINE WATER HEATERS - 110 VOLT

	EHM4-SM	4 GAL	INTERNAL HEAT EXCHANGER - 150 PSI
	EHM6-SM-FHX	6 GAL	INTERNAL HEAT EXCHANGER - SINGLE LOOP - 75 PSI
93891	EHM6-SM-FHX	6 GAL	INTERNAL HEAT EXCHANGER - SINGLE LOOP - 150 PSI
	EHM6-SM-FHX-4W	6 GAL	INTERNAL HEAT EXCHANGER - SINGLE LOOP - 150 PSI - ANDERSON CONNECTOR
	EHM6-SM-FHX-TC	6 GAL	INTERNAL HEAT EXCHANGER - SINGLE LOOP - 150 PSI W/VAC VALVE
94610	EHM6-SM-FHX-SS	6 GAL	INTERNAL HEAT EXCHANGER - SINGLE LOOP - 150 PSI - SS
93882	EHM11-SM-FHX	11 GAL	INTERNAL HEAT EXCHANGER - SINGLE LOOP - 150 PSI
	EHM11-SM-FHX	11 GAL	INTERNAL HEAT EXCHANGER - SINGLE LOOP - 75 PSI
94550	EHM11-SM-FHX-SS	11 GAL	INTERNAL HEAT EXCHANGER - SINGLE LOOP - 150 PSI - SS
	EHM11-SM-FHX-4W	11 GAL	INTERNAL HEAT EXCHANGER - SINGLE LOOP - 150 PSI - ANDERSON CONNECTOR
	EHP-10-SS	10 GAL	INTERNAL HEAT EXCHANGER - FOUR LOOP - 150 PSI - SS
96335	EHP-10	10 GAL	INTERNAL HEAT EXCHANGER - FOUR LOOP - 150 PSI
	EHM11-SM-SS-DUAL-HX	11 GAL	EXTERNAL & INTERNAL HEAT EXCHANGER - SINGLE LOOP - 150 PSI - SS
94210	EH20	20 GAL	INTERNAL HEAT EXCHANGER - TWO LOOP - 150 PSI
94215	E20	20 GAL	NO HEAT EXCHANGER - 150 PSI

INTERNATIONAL MARINE WATER HEATERS - 220 VOLT - CE APPROVED

	EHM4		
94590	EHM6-FHX	6 GAL	INTERNAL HEAT EXCHANGER - SINGLE LOOP - 150 PSI
	EHM6-FHX	6 GAL	INTERNAL HEAT EXCHANGER - SINGLE LOOP - 75 PSI
94605	EHM6-SS-FHX	6 GAL	INTERNAL HEAT EXCHANGER - SINGLE LOOP - 150 PSI - SS
	EHM6-FHX-4W	6 GAL	INTERNAL HEAT EXCHANGER - SINGLE LOOP - 150 PSI - ANDERSON CONNECTOR
94555	EHM11-FHX	11 GAL	INTERNAL HEAT EXCHANGER - SINGLE LOOP - 150 PSI
	EHM11-FHX	11 GAL	INTERNAL HEAT EXCHANGER - SINGLE LOOP - 75 PSI
	EHM11-FHX	11 GAL	INTERNAL HEAT EXCHANGER - SINGLE LOOP - 150 PSI
94575	EHM11-SS-FHX	11 GAL	INTERNAL HEAT EXCHANGER - SINGLE LOOP - 150 PSI - SS
	EHM11-FHX-4W	11 GAL	INTERNAL HEAT EXCHANGER - SINGLE LOOP - 150 PSI - ANDERSON CONNECTOR
94220	EH20	20 GAL	INTERNAL HEAT EXCHANGER - TWO LOOP - 150 PSI
94225	E20	20 GAL	NO HEAT EXCHANGER - 150 PSI
	E20	20 GAL	NO HEAT EXCHANGER - 75 PSI

DSI - DIRECT SPARK IGNITION

SS - STAINLESS JACKET

XT - EXOTHERMAL

Pilot Models



QUESTIONS

The following questions should be answered during this portion of the manual:

- · Are the Robertshaw and White Rodgers thermostat gas control valves inter-changeable?
- · What is the minimum gas pressure required for proper water heater operation?
- · Where on the water heater gas control can gas pressure be tested?
- · Can the pilot flame be adjusted?
- · What is minimum millivolt output of the thermocouple required for proper gas control operation?
- · How can you test a thermocouple?
- · How tight should the thermocouple connection be at the gas control?
- $\cdot\,$ What is an E.C.O., where is it located and what is its function?
- · What is a proper main burner air shutter adjustment?
- · What is the proper control and main burner alignment?
- · How can you easily check the calibration of a control?

Atwood 6 and 10 Gallon Pilot Water Heaters

Atwood water heaters are designed and approved for use only in recreation vehicles (travel trailers, 5th wheels, motor homes, etc.). They are offered in two sizes: 6 and 10 gallon capacities.

TYPE OF GAS IGNITION -

This unit is ignited outside of the trailer by a match, piezo ignitor or other ignition device. The water temperature is adjustable at the thermostat control.

EXPLANATION OF MODEL NUMBER:

Pilot Models



NOTE: When replacing the element on a combination gas/110 VAC unit, always check the back of the heater for the type of element it has. It will either be a bolt-on or screw-in element. They are not interchangeable.

FEATURES

- All units operate on propane gas.
- A heat exchange option is available for motor homes. The water heater tank must have factory equipped heat exchange tubes welded on it already. They cannot be added later. A new water heater tank with this option is the only way to obtain this feature.
- Skin mounting allows the water heater to be hooked up with plumbing and electrical before the sidewall is erected.
- The tank has a clad aluminum lining that protects against corrosion and does not need to be replaced on a yearly or more frequent basis unlike an anode rod. A more detailed explanation of cladding is found in the back of this manual.
- 95% of all servicing can be done on the outside of the water heater. 110 VAC heating components are the exception since they are located on the back of the water heater inside the trailer.
- A flush flange is available for all models. This makes the access door flush with the trailer sidewall.
- There are multiple protection features in the form of a pressure-temperature relief valve, a limit switch in the gas thermostat and an externally sealed combustion chamber.
- On combination water heaters, the gas mode and the 110 VAC heating mode can be operated at the same time since each mode has its own thermostat.
- Both the six and ten gallon units have the lightest weight in the industry.
- The Atwood Limited Warranty is for a period of two years.
- There are over 1,000 Service Centers throughout the United States.

Recommended Tools and Equipment

U-Tube Manometer - This is the most accurate device for measuring gas pressure. If you use a dial-type manometer, it should be calibrated periodically with this type of manometer.

Thermostat Wrench - This tool allows for easier and safer removal of the gas thermostat control. An adjustable version for different size controls is available through most RV distributors or you may fabricate one from angle iron. We do not recommend using a pipe wrench because it may damage the control causing it to go out of calibration.

U-TUBE MANOMETER with 1/8" pipe nipple Fill here

THERMOSTAT WRENCH



Multi-meter - This is the most versatile meter and will test AC voltage and continuity. A continuity test can be used to test for a blown E.C.O. on a gas control.

Magnet Assembly Thermocouple Tester - This assembly can be obtained at an electronics or hardware store. This same assembly can also be removed from a Robertshaw control. It will verify if a thermocouple is good. For testing, screw a thermocouple into the tester, heat the thermocouple for 25 seconds and then press the plunger down. If the plunger pops up in less that 25 seconds, the thermocouple is faulty.



MAGNET ASSEMBLY TO TEST THERMOCOUPLE



Common Hand Tools - 1/8" and 1/4" nut drivers, open end wrenches, flat blade and Phillips screw drivers.

Leak Test Solution - A solution that bubbles when applied to gas fittings or connections showing when a gas leak is present.



Gas Thermostat Controls and Pilot Assemblies

Only two makes of gas controls have been used on our pilot model water heaters. They are the Robertshaw "Unitrol" and White Rodger (formerly Jade or ITT).

The Robertshaw control came in two different sizes of gas inlets: 3/8" inverted flare and 3/8" N.P.T. The inverted inlet control is no longer available. Therefore, the water heater gas line connection will have to be modified to 3/8" N.P.T. in order to use the current Robertshaw control.

The White Rodger control is the valve we are using on all production today. Formerly it had a $3/8^{\circ}$ N.P.T. inlet. Now it is only available with a $1/4^{\circ}$ inlet. This improvement eliminates the adapter fitting into the control allowing the use of only a single 45 degree elbow ($3/8^{\circ}$ flare x $1/4^{\circ}$ N.P.T.). If you are replacing a current $1/4^{\circ}$ inlet model control with a earlier model $3/8^{\circ}$ inlet control you may have in stock, the adapter fitting that mates the control and elbow fitting is still available.

Although the controls appear quite different in size, the White Rodger and Robertshaw control are interchangeable. Their manifolds will both line up with the burner tube properly.

Both controls have a port to test gas pressure through the valve. This can be accomplished by removing the cover screw and inserting a 1/8" pipe nipple. After attaching your manometer hose to this fitting, the manometer should register 10" W.C. through the valve while it is operating.



There are two main pilot assemblies that you will encounter in the field.

The first is an earlier model Robertshaw pilot assembly with a 1/4" pilot gas line that mounted on the left side of the main burner.

The current pilot is the Jade assembly with a 1/8" pilot gas line and it mounts on the right side of the main burner.

The Robertshaw pilot is no longer available and the Jade pilot must be substituted. When installing a Jade assembly in place of a Robertshaw assembly, if there is not a location on the right side of the main burner to mount the Jade pilot, a new burner that has the proper mounting holes will have to be purchased.

Note: The size of the gas line does not have any affect on the size of the pilot flame. Only the gas pressure and pilot orifice regulate the height of the pilot flame.





Pilot Sequence of Operation



PILOT OPERATION

• Gas Pressure	11 $$ W.C. to control is necessary. Set with two gas appliances running. \checkmark
• Gas Control	supplies gas to pilot orifice when control on/off pilot knob is held at pilot position. \blacklozenge
• Pilot Orifice	meters gas to heat thermocouple. Flame should be high enough to engulf the thermocouple. $igvee$
• Thermocouple	generates millivoltage to the gas control's magnet assembly. $igvee$
• Magnet	when it receives 12 millivolts or more it allows gas to flow freely to pilot without holding pilot knob. $igvee$
• E.C.O.	passes millivolts through the gas control and back to thermocouple. Trips permanently open if water temperature exceeds 190° F.

MAIN BURNER OPERATION

• Gas Control	supplies gas to main burner when control knob is set to "ON" position and the temperature lever is set to desired temperature after pilot is lit. \blacklozenge
• Main Burner Orifice	meters gas through burner tube. ↓
• Main Burner	pilot ignites gas when it reaches end of this tube. Flame height adjusted by sliding air shutter. Ideal setting is 1/4 way open (.20'). Flame should be primarily blue with a trace of yellow. \clubsuit
• Temperature Knob	setting of knob determines burner cycle and water temperature. Temperature range is 70°F - 140°F.

Pilot and Main Burner

Pilot Adjustment

Only the gas pressure, gas valve and the pilot orifice regulate the height of the pilot flame. Early model gas controls have a pilot adjustment screw, but this screw has very little effect on the pilot. The pilot adjustment has been removed from the current White Rodger control. The flame should be high enough to engulf the thermocouple at all times. A pilot flame any larger could blow the E.C.O. in the gas control. This is typically the result of enlarging the pilot orifice hole with a pin or similar item. For further corrective measures, refer to the trouble-shooting guide.



Main Burner Adjustment

The gas pressure, air shutter and cleanliness of the burner tube and orifice regulate the main burner flame. The main burner flame should be mainly blue with a trace of yellow and fairly quiet. If it is not, adjust the gas pressure to 11["] W.C., ensure that the main burner air shutter is 1/4 way open and verify that the main burner flame spreader is square to the end of the main burner. For further corrective measures, refer to the trouble-shooting guide.



(orientation found in pilot water heater)

Main Burner Alignment

The manifold and main burner should be as perfectly aligned as possible. In other words, the gas valve should be rotated at the same angle as the main burner tube. If it is not, rotate the gas control and/or the orifice holder so that the orifice disperses gas straight down the center of the burner tube. If the valve must be backed off any, check for water leaks at the coupling the control screws into before you operate the water heater.





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Pilot Water Heater TROUBLE SHOOTING GUIDE

Effective: 5/26/98

Guides are only intended for use on Atwood[®] products by service technicians who have successfully completed Atwood[®] training. This guide should be used in conjunction with the appropriate Instruction Manual provided with the product and any applicable Industry standards. This is not intended to be a complete list. Please direct questions concerning service of Atwood[®] products to 866-869-3118 before proceeding.

CAUSE	SOLUTION
PILOT OUTAGE	· · · · · · · · · · · · · · · · · · ·
Gas pressure incorrect	Set pressure to a minimum of 11" W.C. with two or more appliances running
Blocked "U" tube	Remove obstruction
Improper main burner alignment	Re-align main burner and main burner orifice holder and gas valve
Improper air adjustment	Adjust main burner air snutter approximately 1/4 open
Weak thermocouple	Replace mermocouple
Mook and control magnet	Perless and control
Defective E C O in control	neplace gas control and check the nilet flame. It should be high enough to enough
	the thermocouple at all times.
PILOT OUTAGE WHEN BUTTON OR KNOB	IS RELEASED
Thermocouple not hot	Hold button or knob for 30 seconds before releasing
Thermocouple loose	Tighten connection at gas control
Weak thermocouple	Replace thermocouple
Weak gas control magnet	Replace gas control
Defective E.C.O. in control	Replace gas control
MAIN BURNER WILL NOT IGNITE	
Blocked main burner orifice	Clean or replace orifice
Main burner flame spreader mis-alignment	Square flame spreader to end of main burner
Blocked main burner	Remove blockage
Improper air adjustment	Adjust main burner air shutter approximately 1/4 open
Blocked "U" tube	Remove blockage
Gas control out of calibration	Replace gas control
ERRATIC MAIN BURNER FLAME	
Improper gas pressure	Set inlet pressure to a minimum of 11" W.C. with two or more appliances running
Improper air adjustment	Adjust main burner air shutter approximately 1/4 open
Partial blockage of main burner	Remove blockage
Partial blockage of main burner orifice	Clean or replace orifice
Flame spreader misaligned	Re-align spreader or replace main burner
Blockage in "U" tube	Remove blockage
Poor gas supply	Replace gas supply
Exhaust grille blocked	Remove blockage De clien main human main human crifics holder and see value
Improper main burner angiment	Re-aligh main burner, main burner office holder and gas valve
SMOKING AND SOOTING	
Gas pressure incorrect	Set pressure to a minimum of 11" W.C. with two or more appliances running
Poor gas supply	Replace gas supply
Improper pilot flame	Clean or replace pilot orifice
Improper air adjustment	Adjust main burner air snutter approximately 1/4 open
Plane Spreader mis-anglied	Persona blockage
Improper main burner alignment	neiliove blockaye
Blocked "U" tube	Remove blockage
INSUFFICIENT WATER TEMPERATURE	
Temperature selector out of place	Re-set to desired position
Bypass levers improperly positioned	Reposition levers
Improper air adjustment	Adjust main burner air shutter approximately 1/4 way open
Partial main burner blockage	Remove blockage
Improper main burner adjustment	Re-align main burner and main burner orifice holder
Flame spreader mis-aligned	Re-align or replace main burner
Blocked "U" tube	Remove blockage



Engine Heat Exchange System



The engine heat exchange system allows a motor home to heat the water while traveling. This convenient option allows you to arrive at your destination with hot water. Operating a pilot or electronic water heater on gas while in transit is a dangerous practice.

This system consists of a U-shaped aluminum tube that is attached to the outside of the tank with welds. SAE hoses are attached to both ends of this tube and are spliced into the engine coolant system.

When the engine is running, the hot coolant flows past the tank through this tube and by means of heat transfer through the welds, heating the water. The design of this system will not allow the water to reach a boiling point.

Aftermarket Heating Elements

WARNING EXPLOSION / BURN INJURY

- Aftermarket heating elements can lack critical safety controls.
- Use of these devices can lead to an out of control heating of water tank and a catastrophic wet side explosion.

YOU DO NOT NEED AN AFTERMARKET HEATING ELEMENT ON AN ATWOOD WATER HEATER. THE USE OF AFTERMARKET HEATING ELEMENT DEVICES MAY ALSO RESULT IN DAMAGE TO COMPONENTS OR WATER HEATER. Atwood's written warranty states - "failure or damage resulting from any alteration to our water heater is the owner's responsibility". ANY ALTERATION, SUCH AS THE ADDITION OF AN AFTERMARKET HEATING ELEMENT DEVICE, <u>WILL VOID THE WARRANTY</u>.

- Temperatures produced by these heating elements can exceed the 190°F. limit of the ECO on pilot model gas control valves. This gas control valve contains a one-shot ECO. When this ECO blows, the control is completely non-functional and must be replaced. THIS IS A NON-WARRANTABLE SITUATION.
- When Aftermarket heating elements are inserted into the drain plug, customers are more prone not to flush their tanks. Not flushing the tank accelerates tank corrosion on both our pilot and electronic ignition water heaters creating a situation where the tank may have to be replaced. THIS IS A NON-WARRANTABLE SITUATION.

BOLT-IN Heating Element, Thermostat & ECO



110VAC Trouble-Shooting

Wiring Schematic



Early model water heaters with 110 VAC heating capacity used a bolt-on heating element and a one piece thermostat/E.C.O..

This 110 VAC system has an adjustable rectangular thermostat that is surface mounted to the inner tank and retained by a steel clip. The temperature settings are HI, MEDIUM, and LOW. If the thermostat is making unobstructed contact with the aluminum tank and it is set to the HI position, it should heat the water to 130° F. It will take longer to heat a tank of water on electric than gas.

The heating element was changed in 1996 from 1500W to 1400W bringing the amperage draw down to 12.7 amps and allowing more cushion for the 15 amp circuit breaker that is normally placed in line. This change adds a few minutes to the heating time.

There are 110 VAC aftermarket conversion kits being offered by distributors in which the heating element is screwed into the tank where the drain plug is located. We do not offer such a kit. Our kit includes the tank with the 110 VAC components already installed in it. In the case where the 110VAC portion of the water heater is not heating water, the following diagnostic steps and repairs should be investigated:

Turn POWER OFF to the appliance before removing junction box cover.

Perform the following steps with POWER ON to water heater.

- 1. Verify switch-A is in ON position.
- 2. Insure there is 110VAC to the unit (measure voltage across the black and white lead to the appliance with POWER ON). If none, trace wiring back and make appropriate wire repair.

Perform the following steps with POWER OFF to water heater.

- 3. ECO Re-set Button-D should be depressed.
- 4. Check for continuity between screw-B and screw-C of thermostat. If none, replace thermostat.
- 5. If water is insufficiently hot, check ECO / Thermostat-E is on high.
- 6. Verify a good wire connection between thermostat screw-C and heating element screw-G. Correct if necessary.
- 7. There should be continuity between heating element screw-G and screw-F. If none, element is bad and should be replaced. Do not over-tighten self-tapping screws when installing new element.
- Check for continuity between element screw-G and flange of element. If there is, element has shorted. Element should be replaced.
- 9. Verify ground connection.

NOTE: Heating element can be operated on an empty tank for a limited period of time before it self-destructs.



SCREW-IN Heating Element, Thermostat & ECO

110VAC Trouble-Shooting

Wiring Schematic



Current production water heaters with the 110 VAC heating option use a screw-in heating element, a separate pre-set thermostat and a separate ECO.

The screw-in heating element is rated at 1400 watts just like the bolt-on element. It is an incalloy element and can be run for a limited amount of time in a dry tank without shorting out.

CAUTION: If the heating element is allowed to run with a dry tank, allow the tank to cool down for 2-3 hours before adding water. Adding water before the tank cools sufficiently could collapse the tank.

The thermostat and ECO are pre-set surface-mounted discs. The thermostat is set at 140° F and is the same thermostat used on the gas side of the electronic ignition water heaters. The ECO is a backup thermostat and will trip if the thermostat fails and the water temperature exceeds 170° F.



When the 110VAC portion of the water heater is not heating water, the following diagnostic steps and repairs should be investigated:

Turn POWER OFF to the appliance before removing junction box cover.

Perform the following steps with POWER ON to water heater.

- 1. Verify switch is in ON position.
- 2. Insure there is 110VAC to the unit (measure voltage across the black and white lead to the appliance with POWER ON). If none, trace wiring back and make appropriate wire repair.

Perform the following steps with POWER OFF to water heater.

- 3. Manual reset ECO high limit switch-A should be depressed. Check for continuity between TERMINAL B and TERMINAL C of ECO.
- 4. Check for continuity between TERMINAL D and TERMINAL E of thermostat. If there is none, replace thermostat.
- 5. If water is insufficiently hot, insure thermostat is flush with tank.
- 6. Verify a good wire connection between ECO TERMINAL-C and heating element TERMINAL-F. Correct if necessary.
- 7. Check for continuity between heating element TERMINAL-F and TERMINAL-G. If none, element is bad and should be replaced. Do not over-tighten selftapping screws when installing new element.
- 8. There should NOT BE CONTINUITY between element screw-G and flange of element. If there is, element has shorted. Element should be replaced.
- 9. Verify ground connection.
- **NOTE**: Heating element can be operated on an empty tank for a limited period of time before it self destructs.



Electronic Ignition Models



QUESTIONS

The following questions should be answered during this portion of the manual:

- · What is minimum gas pressure for proper water heater operation?
- $\cdot\,$ Where on the gas solenoid valve can gas pressure be tested?
- · What is the minimum voltage needed for operation?
- \cdot What is the proper wiring hook-up for the water heater circuitry?
- · Can the Circuit Board Tester be used on both Fenwal and Channel circuit boards?
- · How can the Circuit Board Tester be used to check a "flying lead" circuit board?
- · What conditions can cause tracks on the back of the circuit board to blow?
- · What is a proper main burner air shutter adjustment?
- · What is the function of the thermal cut-off?

Atwood 6 and 10 Gallon Electronic Ignition Water Heaters

Atwood water heaters are designed and approved for use only in recreation vehicles (travel trailers, 5th wheels, motor homes, etc.). They are offered in two sizes: 6 and 10 gallon capacities.

TYPE OF GAS IGNITION -

This unit is ignited inside of the trailer by a remote ON/OFF switch. The water temperature is preset at 140° F.

EXPLANATION OF MODEL NUMBER:



NOTE: When replacing the element on a combination gas/110 VAC unit, always check the back of the heater for the type of element it has. It will either be a bolt-on or screw-in element. They are not interchangeable.

FEATURES

- All units operate on propane gas.
- A pre-set thermostat set for 140° F. An aftermarket retro-fit adjustable thermostat is available and adjustable from 110° to 150° F.
- A heat exchange option is available. The water heater tank must have factory equipped heat exchange tubes welded on it already. They cannot be added later. A new water heater tank with this feature must be installed to use the heat exchanger.
- Skin mounting allows water heater to be hooked up with plumbing & electrical before the sidewall is erected.
- This heater has a comparable, if not superior, anode type protection for the tank. The tank is manufactured with a clad aluminum lining that protects against corrosion but does not need to be replaced yearly as an anode rod. A more detailed explanation of cladding is found in the back of this manual.
- 95% of all servicing is done on the outside of the water heater. 110 VAC heating components are the exception. Since they are located on the back of the water heater inside the trailer.
- A flush flange is available for all models. This makes the access door flush with the sidewall.
- The water heater has protection features that include a pressure-temperature relief valve and a limit switch in the gas thermostat (ECO).
- Both the six and ten gallon units have the lightest weight in the industry.
- The Atwood Limited Warranty is for a period of two years.
- There are over 1,000 Service Centers throughout the United States.

XT Electronic Models Only



FEATURES

- Provides 50% more hot water without increasing the size or adding weight using a pre-set thermostat set for 155°F. used exclusively in the XT water heater.
- Pre-configured winterizing capability. The valve, hose, tee and thermostatically-controlled mixing valve, with a check valve and a cold water passage, allows you to isolate and drain the tank and pump antifreeze through the plumbing circuit.

Recommended Tools and Equipment

U-Tube Manometer - This is the most accurate device for measuring gas pressure. If you use a dial-type manometer, calibrated it periodically.

Multi-meter - This is the most versatile meter and will test continuity and 12VDC. These tests will allow one to verify voltage problems or faulty components. The entire electronic system can be tested with this meter.



MULTI-METER TO TEST CONTINUITY & VOLTAGE



Circuit Board Tester - The tester is capable of testing any of the circuit boards (Fenwal and Channel models) that we have used on our water heaters. It is a simple table top device that will diagnose the following items on a circuit board: power circuit, sense circuit, spark generation and the lock-out mode. For use on circuit boards with a flying lead connection, splice a wire into the black wire of the tester harness with a 1/4[°] male terminal on the free end.



Common Hand Tools - 1/8" and 1/4" nut drivers, open end wrenches, flat blade and Phillips screw drivers.

Leak Test Solution - A solution that bubbles when applied to gas fittings or connections showing where a gas leak is present.



DSI Sequence of Operation







Electronic Ignition Water Heater TROUBLE SHOOTING GUIDE

Effective: 5/26/98

Guides are only intended for use on Atwood[®] products by service technicians who have successfully completed Atwood[®] training. This guide should be used in conjunction with the appropriate Instruction Manual provided with the product and any applicable Industry standards. This is not intended to be a complete list. Please direct questions concerning service of Atwood[®] products to 866-869-3118 before proceeding.

CAUSE

SOLUTION

WATER HEATER LOCK OUT - SPARK PRESENT BUT NO GAS

Gas pressure incorrect	Set inlet pressure at a minimum 11" W.C. with two or more gas appliances running
Low voltage	Correct power supply - 10.5 VDC minimum
Blocked main burner tube	Clean burner tube
Blocked main burner orifice	Clean or replace orifice
Loose wires on E.C.O.	Secure wire connections
Loose wire connections on solenoid valve	Secure wire connections
Loose valve wire on wiring harness	Repair wire on edge connector or replace wiring circuit board harness
Defective E.C.O.	Replace E.C.O.
Defective circuit board	Replace circuit board
Defective solenoid valve	Replace coils or solenoid valve
No gas to solenoid valve	Correct gas supply
Dirty connector on circuit board	Clean edge connector

WATER HEATER LOCK OUT - GAS PRESENT BUT NO SPARK

High tension lead wire loose	-Secure wire connection on circuit board
Electrodes loosely attached to main burner	-Secure electrodes to main burner
Improper electrode gapping	-Re-position spark gap to 1/8" and into path of flame
Dirty electrodes	-Clean electrodes
Wires loose in electrode porcelain	-Replace electrodes
Cracked porcelain on electrode	-Replace electrodes
Defective circuit board	-Replace circuit board

WATER HEATER LOCK OUT - GAS AND SPARK PRESENT

Gas pressure incorrect	Set inlet pressure at a minimum 11 ["] W.C. with two or more gas appliances running
Low voltage	Correct power supply - 10.5 VDC minimum
Poor electrical ground	Secure electrical ground
Electrodes out of flame pattern	Re-adjust electrodes
Electrodes sparking to screw fastening burner to flue tube	Adjust electrodes away from screw
Dirty electrodes	Clean electrodes
Partial obstruction in main burner	Clean main burner
Partially obstructed main burner orifice	Clean main burner orifice or replace
Improper air adjustment	Adjust main burner air shutter approximately 1/4 open
Flame spreader on main burner out of adjustment	-Adjust flame spreader so that it is square to the end burner tube out
	of alignment of the main burner
Manifold not aligned with main burner	Re-align solenoid valve with main burner
Partially opening solenoid valve	Replace solenoid valve
Defective circuit board	Replace circuit board



CAUSE	SOLUTION
EXCESSIVE OR INSUFFICIENT WATER TEMPE	RATURES
By-pass kit valves not set properly Thermostat not seated against tank Defective thermostat	Place valves in proper position Reseat thermostat Replace thermostat
ERRATIC BURNER FLAME OR SOOTING	
Low gas pressure	Set inlet pressure at a minimum 11"W.C. with two or more gas appliances running
Poor gas supply	Replace gas supply
Improper air adjustment	Adjust main burner air shutter approximately 1/4 way open. Flame should be mainly blue and quiet.
Poor main burner alignment	Adjust valve and main burner alignment
Misaligned burner flame spreader	Align flame spreader so it is square with end of burner tube.
Blocked burner orifice	Clean orifice. DO NOT enlarge orifice

Blocked burner orifice	-Clean	orifice.	DO NOT	enlarge or	ifice
Obstructed main burner	-Clean	main b	urner		

Obstructed "U" tube ------Clean "U" tube Obstructed exhaust grille ------Remove obstruction

NO SPARK <u>AND</u> NO GAS

No voltage	Correct power supply - minimum 10.5 VDC
Dirty edge connector on circuit board	Clean edge connector
Defective thermal cut-off	Replace thermal cut-off
Defective ON/OFF switch	Replace switch
Defective circuit board	Replace circuit board
Defective thermostat	Replace thermostat





INTERMITTENT IGNITION

Electronic Ignition Water Heater

INFORMATION GUIDE

Effective: 8/21/00

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1. CHECK ALL OF THE WIRE CONNECTIONS.

Poor or corroded wire connections cause most of the intermittent problems in water heaters. You should go through and pull all of the wires off any spade connections. Then reconnect them and ensure the connections are tight and corrosion free.

We want to point out two connections often overlooked.

First, check the (green) ground wire of the circuit board. This wire screws down under the circuit board mounting screw. If that screw for the board is loose, you may not have a secure ground.

Second, check the four wire edge connector going into the circuit board. Remove the circuit board. Take a pencil eraser and clean the marks off the connection of the circuit board. Reconnect the four wire edge connector onto the circuit board and then immediately remove it. Look at the edge connection of the board. You need to see four good scratches in the connection. If you do not see four scratches, then you will need to repair the edge connector or replace the wire harness.

2. CHECK THE INTEGRITY AND POSITION OF THE SPARK PROBE ASSEMBLY.



The gap between the sparking probe and the ground probe should be 1/8 inch. The probes should be clean and free of cracks, flaking and corrosion. Position the probes so that they are in the path of the gas flow. Cracks in the ceramic insulator can also be the source of an intermittent problem. To check for cracks insert a fiber washer or any other type of insulation material in the 1/8" gap between the rods. Remove the gas valve from the circuit and turn the unit on. If you see a spark jumping from the ceramic to the ground rod or bracket, replace the spark probe.

3. CHECK THE ALIGNMENT OF THE MAIN BURNER TO THE ORIFICE.

Position the main burner tube (A) so that the gas coming out of the orifice (B) is going straight down the middle of the burner tube. If the alignment is off, the gas will bounce down the tube which will alter the gas flow once it reaches the spark. Manually shift the valve (C) with your hands to achieve this alignment.



4. CHECK THE ALIGNMENT OF THE FLAME SPREADER ON THE BURNER TUBE.



At the end of the burner tube there is a dime-shaped deflector disk. This disk spreads the flame out for proper heat distribution. Align the flame spreader (A) so that it is parallel to the end of the tube and positioned in the center of the end of the tube. If the flame spreader is out of position, it could divert the gas away from the spark and cause intermittent ignition.

continued



Intermittent Ignition Water Heater (continued) Effective: 8/21/00

5. CHECK THE AIR ADJUSTMENT.

The burner tube has an adjustable air shutter on it at the end where it goes over the orifice. Position the air shutter so that it is 1/4 of the way open. We are looking for a blue flame with small traces of yellow in the flame. If the flame is fairly quiet then it is adjusted correctly.

6. CHECK THE CLEANLINESS OF THE ORIFICE.

The orifice is the hex head brass fitting that is screwed onto the brass manifold of the valve. You will have access to this part once the burner has been removed. Remove the brass orifice and clean with isopropyl alcohol. **NEVER** enlarge the size of the orifice.

7. CHECK FOR OBSTRUCTIONS IN THE MAIN BURNER TUBE.

The cleanliness of this tube is very important. Spider webs, soot and other debris can accumulate, causing problems with gas flow down the tube. We recommend cleaning the burner tube with a brush and not compressed air. Compressed air may not fully remove the obstruction.

8. CHECK THE CLEANLINESS OF THE FLUE TUBE.

The flue tube is the 2-1/2 inch diameter tube that starts at the bottom right corner of the water heater (where the main burner flame enters) and comes out the top left. This tube can become blocked by debris like insect nests or soot. To clean remove the metal flue box in the top left corner of the water heater. To facilitate cleaning unfold a wire hanger, wrap a rag around the end and use this to swab out the tube.

9. CHECK THE VOLTAGE TO THE VALVE.

Make sure that the voltage to the gas solenoid valve is between 10.5 and 13.5 volts DC. Voltage drops can occur at almost any component. Turn on another twelve volt appliances when you check the voltage so that you can see how the converter is working with a load. The voltage itself can be intermittent. With linear converters the 12 VDC varies depending on the 115 VAC. If the 115 VAC is high then the 12 VDC will be high, and if the 115 VAC is low then the 12 VDC will be low. If the power to the water heater is connected to the unfiltered side of the converter, move it to the filtered side.

10. CHECK THE GAS PRESSURE OF THE RV.

Make sure the gas pressure of the RV is checked with preferably the furnace and the range on to simulate a load. The pressure should be 11 inch water column under load. Besides gas pressure being at the proper level there are other strange things that can happen inside gas lines that cause intermittent problems. We have seen oil build up in a gas line that meant there was good pressure to one appliance but not the correct pressure to another appliance. Moisture could also build up in the gas line that would freeze and partially block the line. Intermittent pressure from the regulator of the bottles is still another area that should be investigated.

11. INTERMITTENT CIRCUIT BOARD.

If you have gone through all of the above checks and the intermittent problem is still occurring, only then check the circuit board. Ensure the circuit board is clean and reasonably moisture free before you change it.

There are two major points that should have stood out to you from this list.

First, the majority of intermittent ignition problems on Atwood electronic ignition water heaters can be corrected by cleaning certain components or making simple adjustments.

Second, ignition problems can be found in other components than the circuit board. The circuit board is not the end all solution to ignition problems. This mindset developed a number of years ago with the introduction of the first circuit boards that were not very reliable. We've learned a lot since then. Technology has progressed making today's circuit boards very reliable. The circuit board can only do what the other components of the water heater allow it to do.

**POTTED CHANNEL CIRCUIT BOARDS

Atwood **potted circuit boards can be tested using a multi-meter. This test must be performed with the circuit board removed, and the meter set to the ohms scale. This will check the continuity of all tracks on the harness connection of the board.

The following steps should be used to test each track.

A. Cross leads of meter to ensure it is registering continuity.

B. TO TEST POWER TRACK:

Place negative lead of the multi-meter to ground (green wire) track of edge connection and positive lead of the multi-meter to top power (brown wire) track of edge connection. If no continuity, board is defective. *Atwood does not warranty this installation related failure.

C. TO TEST LAMP TRACK:

Place negative lead of the multi-meter to ground (green wire) track of edge connection and positive lead of the multi-meter to lamp (blue wire) track of edge connection. If no continuity, this indicates blown lamp track. Circuit board will still fire unit but lamp light will not come on. This is caused by a short in the blue wire between the unit and the switch. Wiring must be corrected before the board is replaced. *Atwood does not warranty this installation related failure.

D. TO TEST VALVE TRACK:

Place negative lead of the multi-meter to ground (green wire) track of edge connection and positive lead of the multi-meter to valve (red wire) track of edge connection. If no continuity, this indicates a blown valve track.

- If the valve wire is shorting under the flue box Atwood will warranty the board.
- If the E.C.O. terminals are contacting the drawn pan

 Atwood will warranty the board only if the inner tank of the water heater was installed flush on the floor of the coach.
- If the inner tank of the water heater does not rest flush against the floor of the coach -*Atwood does not warranty this installation related failure.
- * Installation related failures on circuit boards are the responsibility of the coach manufacturer.
- ** Non potted circuit boards can be checked by turning the board over and visually inspecting each track for a burn mark or break in the track itself. A burn mark or broken track indicates the board is blown. Depending on which track is blown determines whether it is covered under Atwood's warranty as stated in section B, C and D.

THERMAL CUT-OFF DEVICE

Current Atwood direct ignition water heaters are equipped with a thermal cut-off device. This device is located on the incoming power wire and is connected to the thermostat. The thermal cut-off is designed to permanently break circuit and shut down the water heater before excessive heat can cause damage due to obstructions in the main burner tube or flue tube caused by spiders or mud wasps. These obstructions can cause the main burner flame to burn outside the main burner tube. When the flame or the heat from the flame contacts the thermal cut-off, the circuit will open.

If there is **no heat damage** to the thermal cut-off, and if it is determined defective, Atwood will cover the replacement of this device under warranty. We will allow .25 hour at your Atwood approved warranty rate. If there **is heat damage** the device performed its safety feature and no warranty labor will be allowed. Any obstructions should be removed, alignment checked and gas pressure taken before a new thermal cut-off is installed.

Note: When replacing a thermal cut-off, also examine the grill in the access door while the door is in the closed position. The wide aluminum band of the grill should be at the bottom. If it is at the top, this condition may trap exhaust heat and possibly also cause thermal cutoff to trip. To correct, remove the grill from the door and snap back in place with the wide aluminum band at the bottom.

THERMOSTAT

The thermostat on this water heater is pre-set at 140° F. The water heater will cycle off when the water temperature reaches 140° F. and will generally take 20-25 minutes to reach this temperature. It will cycle back on when the water temperature cools down to approximately 115° F. In the latter part of the heating cycle though, it is very common for the pressure-temperature relief valves to remedy this situation.

If a customer is dissatisfied with the temperature of the water, first check the water temperature with a cooking thermometer and verifying that the initial cycle is within the time noted above. If not, an adjustable thermostat may be purchased allowing the water temperatures to be adjusted from 110 - 150° F. It fits in place of the original thermostat.

Water Heater Wiring Schematics









GC 10A-4E & GC 6A-10E Wiring

In 2003, Atwood created a new gas-electric water heater. These units improve serviceability by moving most of the components for the electric portion of the water heater to the outside except the element and relay, which remain in a junction box in the rear. One module board controls both gas and electric.

When replacing a 3E or 9E to a 4E or 10E some wiring changes are necessary. See the INFORMATION NOTICE that follows.



WIRING DIAGRAM COMBINATION GAS/ELECTRIC



DUAL SWITCH



1120 North Main Street • Elkhart, IN 46514 PHONE: 574•264•2131 FAX: 574•262•2550

INTERNET: http://www.atwoodmobile.com

ENGLISH,

The gas/electric water heater (Models 4-E & 10-E) replaced all previous combination gas/electric water heaters. Models 3-E & 9-E and before operate on DC for the gas side and AC for the electric side.

These older models operate with two separate switches, one DC and one AC. The gas switch has DC voltage coming into the switch and from the switch to the water heater. There is a separate switch used for the electric portion of the water heater. This switch will have AC power coming into the switch and AC going out of the switch to the electric part of the water heater.

The 3-E and 9-E's are no longer available, if an entire water heater must be replaced it will be replaced with the new 4-E or 10-E. There are no changes in the physical dimensions, but a <u>wiring</u> change will be required.

With the new water heater you will receive a new 12 volt control switch for both gas and electric.



The separate gas and electric switches will be replaced by this (one) combo switch on current production.



• Extreme care should be taken with all electrical wiring and professional services retained if necessary.

WIRING THE REAR OF THE WATER HEATER

The only AC required will be in the rear of the water heater at the relay and the element. See wiring below.



The electric switch and all other AC wiring, with the exception of the power into the back of the water heater, must be eliminated.

INFORMATION NOTICE

Atwood Water Heater Conversion

GC10A-3E to GC10A-4E GC6A-9E to GC6A-10E

• Switch Conversion Instructions

Effective 1/16/07

WIRING OF NEW COMBO SWITCH

The new combo switch will be wired, using the picture below.



LOCATION OF COMBO SWITCH

Find the most convenient location for the new switch. It should be close to the DC voltage source that will control the switch. This <u>may</u> be where the AC switch was originally located. Remember that you will have to connect DC positive and negative into this switch. There will also be four wires from the water heater that must attach to the switch.

If your original system was controlled through a central monitor panel, and you prefer to use this system, you will have to contact the manufacture of the unit for monitor panel wiring instructions.

Location and phone numbers of qualified Service Centers can be found at our website http://www.atwoodmobile.com or call 866-869-3118 to have a Service Center List mailed.

Sequence of Operation GC10A-4E & GC6A-10E

Power In When the wall switch is turned on to either gas, electric or both the power moves from the wall switch to the DSI board through the Molex connector.

- 1. Gas When the wall switch (flame) is turned on for gas operation, the orange wire (OR 1) is energized with DC voltage.
- Electric When the switch (lightning bolt) is turned on for electric operation the white wire (WHT 2) is energized with DC voltage.

The power moves from the internal board circuits to the brown wire at the (BRN 3) connection.

From this point the power for gas, electric or both moves through the thermostat, thermal cut off and enters the board again at the lower (BRN 1) connection. This completes the circuit to the lower connection on the board.

When the switch for GAS ignition is turned on -

- 1. Power is sent to the coil on the board. The coil creates a spark for ignition.
- Power is sent to (RED 4) connection. From this point, power flows through red wire, through the ECO and to the gas valve.

When the switch for ELECTRIC is turned on -

 Power is sent from the board to the yellow wire (YLW 2). The yellow wire carries DC voltage to the relay in the back of the water heater. The 12 volt energizes the relay which sends the 110 V to the element.

Quick Diagnostic GC10A-4E & GC6A-10E

Following the sequence of operation:

No power to board through the orange or white wire.

- Test for power into wall switch. If no power, check wiring, fuse, breaker, etc.
- If switch has power but does not work, check to see if switch is wired correctly. If switch is wired correctly, replace switch.

No power out of board at BRN 3.

- Confirm power entering the board at orange (OR1), white (WHT 2) or both with the switch on.
- Check molex connector for proper connection.
- Bad board (replace).

No power at brown (BRN 1), when calling for gas or electric operation.

- Check thermostat for voltage or continuity. Replace if necessary.
- Check thermal cutoff for voltage or continuity. Replace if necessary.
- Confirm molex connector is making contact.
- No power through red wire from RED 4.
 - Confirm power coming in at brown (BRN 1).
 - Confirm molex connector is making contact.
 - Bad board (replace).

No power through yellow wire (YLW 2) to relay. Electric operation only.

- Confirm continuity from red (RED 4) at Molex connector to Valve Ground. If the ECO or Valve coils are open then the board will not send power to the yellow wire (YLW 2).
- Confirm power coming in the brown wire (BRN 1).
- Confirm molex connector is making contact.
- Bad board (replace).

No power through relay (electric).

- Confirm AC present.
- Confirm DC through yellow wire (YLW 2).
- Check AC into element. No power, replace relay.
- Power into element from relay (no heat), replace element.

WIRING DIAGRAM COMBINATION GAS/ELECTRIC




General Information

QUESTIONS

The following questions should be answered during this portion of the manual:

- · What causes the pressure-temperature relief valve to weep when unit is in heating cycle?
- · How can weeping pressure-temperature relief valves be reduced or eliminated?
- · What are the proper draining procedures to help reduce lime deposits and extend tank life?
- · Will a tank split for any other reason besides freezing?
- · What functions do the retaining rings serve when replacing an inner tank?
- \cdot What are the most common ways to winterize a tank?



PRESSURE-TEMPERATURE RELIEF VALVE

Weeping or dripping of a pressure-temperature relief valve while the water heater is running DOES NOT mean it is defective. This is normal expansion of water as it is heated in the closed water system of a recreation vehicle. The Atwood water heater tank is designed with an internal air gap at the top of the tank to reduce the possibility of weeping and dripping. In time, the expanding water will absorb this air. To replace the air follow these steps:

- Step 1: Turn off water heater
- Step 2: Turn off incoming water supply
- Step 3: Open the closest hot water faucet in the coach
- **Step 4**: Pull handle of pressure-temperature relief valve straight out and allow water to flow until it stops.
- Step 5: Allow pressure-temperature relief valve to snap shut, turn on water supply and close faucet.



WATER HEATER TANK CORROSION

Pinhole leaks from galvanic corrosion may cause the water heater tank to fail.

Microscopic particles of metals (like iron and copper) suspended in water, set up a reaction inside the water heater that is not unlike the principle on which an automotive battery operates. The aluminum tank is the anode and the metals in the water serve as the cathode. Consequently, the aluminum gradually sacrifices itself and aluminum particles are carried away with the water flow.

A white scaly material (aluminum oxide) often is formed around the points where the heaviest action is taking place and heat accelerates the process. Severity of the problem varies considerably in different locales depending on the metal and mineral content of the water. White deposits inside the water heater tank are usually from water impurities that have settled out.

Periodic flushing of the water heater tank under pressure is recommended to slow down this process. For flushing instructions see your owners manual or contact Atwood for a copy of our recommended procedure.

ATWOOD CLAD TANK

The Atwood water heater tank is constructed of a core of high strength aluminum. The interior of the tank consists of a 15% thickness of type 7072 aluminum (pure aluminum and zinc) that is fused to the core during the rolling process. This material protects the tank from the affects of heavy metals and salts found in waters throughout the country. It is anodic to these heavy metals and acts much like an anode in a steel glass lined tank except it will last much longer. There is also no need to replace an anode on a yearly basis.

Flushing the tank on a regular basis has been found to be helpful in insuring the best performance of your water hater and adding to the useful life of the tank. For flushing instructions see your owners manual or contact Atwood for a copy of our recommended procedures.

FLUSHING TO REMOVE UNPLEASANT ODOR

A rotten egg odor (hydrogen sulfide) may be produced when the electro galvanic action of the cladding material releases hydrogen from the water. If sulfur is present in the water supply the two will combine and produce an unpleasant smell.

- 1. Turn off main water supply. Drain the water heater tank and reinstall drain plug. Remove the pressure-temperature relief valve. Mix solution of 4 parts white vinegar to two parts water. (For a 10 gallon tank, use 6 gallons vinegar to 3 gallons water). With a funnel, carefully pour solution into tank.
- 2. Cycle water heater with the above solution, letting it run under normal operation 4-5 times.
- 3. Remove the drain plug and thoroughly drain all water from the tank. Flush the water heater to remove any sediment. You may flush the tank with air pressure or fresh water. Pressure may be applied through either the inlet or outlet valve on the rear of the tank or through the pressuretemperature relief valve coupling located on the front of the unit.

TO FLUSH TANK WITH AIR PRESSURE:

Insert your air pressure through the pressuretemperature relief valve coupling. With the drain valve open, the air pressure will force the remaining water out of the unit.

TO FLUSH TANK WITH WATER PRESSURE:

Fresh water should be pumped into the tank with either the onboard pump or external water pressure. Continue this flushing process for approximately five minutes, allowing the fresh water to agitate the stagnant water on the bottom of the tank and forcing the deposits through the drain opening.

- 4. Replace drain plug and pressure-temperature relief valve.
- 5. Refill tank with fresh water that contains no sulphur.

The Atwood water heater is designed for use in a recreation vehicle. If you use your vehicle frequently or for long periods of time, flushing the water heater several times a year will prolong the life of the storage tank.

WINTERIZING (FLUSHING) INSTRUCTIONS

To insure the best performance of your water heater and add to the life of the tank, periodically drain and flush the water heater tank. Before long term storage or freezing weather drain and flush the tank.

- 1. Turn off main water supply (the pump or water supply hook up source).
- 2. Drain water heater tank by removing the drain plug. If the water flows sporadically or trickles instead of a steady stream of water, we recommend the following action; first open the pressure temperature relief valve to allow air into the tank and secondly, take a small gauge wire or coat hanger and poke through the drain opening to eliminate any obstructions.
- 3. After draining the tank, because of the placement of the drain plug, approximately two quarts of water will remain in the tank. This water contains most of the harmful corrosive particles. To remove these harmful corrosive particles flush the tank with either air or water. Whether using air or water pressure, it may be applied through the inlet or outlet on the rear of the tank or the pressure temperature relief valve. (If using the pressure temperature relief valve the support flange must be removed). The pressure will force out the remaining water and the corrosive particles.

If you use water pressure, pump fresh water into the tank with the assistance of the on-board pump or use external water for 90 seconds to allow the fresh water to agitate the stagnant water on the bottom of the tank and force deposits through the drain opening. Continue repeating adding water and draining until the particles have been cleared from the water remaining in the tank.

4. Replace the drain plug and close the pressure temperature relief valve. The approximately two quarts of water remaining in the tank after draining will not cause damage to the tank should freezing occur.

Water Heater Terminology

Terminology	Definition	Terminology	Definition
Access Door	hinged cover on outside of water	Main Burner	a gas and air mixing tube
By Pass Kit	neater a combination of hoses and valves that can aid in the winterization of	Main Burner Air Shutter	the slotted sleeve on tube that allows for gas and air adjustment
	the water heater	Main Burner Orifice	a precision drilled fitting that
CSA	Canadian Standards Association		combustion
Calibration	the condition determining whether the thermostat is registering temperatures properly	Mixing Valve	mixes hot and cold water to a fixed temperature 130°F.
Cam-Loc Fastener	a door securing device	N.P.T. (Nat'l Pipe Thread)	a plumbing measurement standard
Circuit Board	an electronic panel that controls the	Pilot Assembly	A gas tube, orifice & thermocouple
	spark, solenoid valve and senses the main burner flame	Pilot Orifice	a precision drilled thimble shaped component that meters gas flow
Drawn Pan	metal pan attached to the water heater tank and fastened to coach sidewall to isolate combustion to outside of coach	Pilot Relight Ignition Module	to pilot. 2 12 volt electronic panel that provides spark ignition and flame sense to maintain pilot flame
DSI	direct spark ignition a.k.a. electronic ignition	Pressure-Temperature Relief Valve	a pressure and temperature safety device used on water heating
E.C.O. (energy cut off)	high temperature re-set shut off device		vessels.
Electrolysis	electro chemical corrosive process	Ring and Gasket	retaining fiber & metal rings that secure combustion pan to tank
Fenwal Tester	a diagnostic circuit board analyzer	Sight Glass	burner flame viewing port on access door
Flame Spreader	a round deflective piece found at the combustion end of main burner.	Spark Probe Assembly	a spark electrode & flame sensing
Flue Box	a chamber that separates air intake and exhaust	Thermal Cut-Off	heat sensing diode that cuts power to circuit board if a flame backs out of the burner tube or
Flue Tube	combustion and water heating surface area on inside of tank		flue tube normally caused by an obstruction in these areas
Flying Lead	flame sensing wire that is sometimes found hard wired to circuit board	Thermostat (gas)	a temperature sensitive device for turning on and off the flow of gas (T-stat)
Front of Water Heater	access door side of water heater	Thermostat (120 volt AC)	a surface mount temperature
Gas Solenoid Valve	a 12 volt DC device that turns on or off the flow of gas		sensitive device that turns on/off heating element
Immersion Element	an AC electrical heating coil that is immersed directly into water	Thermostat (12 Volt DC)	a surface mount temperature sensitive device that turns on/off
Inverted Flare	type of connection using double flare fitting and tube nut	Thermocouple	a device, when heated, generates
Inner Tank	patented, designed vessel for		
	neating water		oline referred to ap a flue tube are
		U lune	some water heater models
		Winterization	process of preparing a water heater for cold winter storage



Pilot Water Heater 6-10 Gallon







REPL/ Janua	Pilot Water Heaters ACEMENT PART REFERENCE BY 2007	gc6A, gc6A-3, gc6A-6, gc6A-7	G6A, G6A-2, G6A-3, G6A-6, G6A-6P, G6A-7, G6A-7P	GH6-3, GH6-6, GH6-7	GC6AA-7, GC6AA-7P	GC6AA-8, GC6AA-8P	G610-3, G610-3E, GH610-3	G10B, G10C	GC10A-2	GC10A-2P	GC10-1, GC10-2, GC10-2P	G10-2, G10-2P	G4SM
N/S	93212 Pilot Relight Kit - battery operated												
N/S	Retronts on all pllot model water neater	s v	Y				Y						
N/S	92973 Inveneu Flare Adapter) 92610 Gas Line Grommet	^ x	^ X	x	¥	×	×	¥	¥	¥	¥	¥	x
N/S	92010 das Line drommet	<u> </u>	×	r x	×	×		^	x	~ ×	×	∧ ×	
1	91265 Sade Office his 91003 Flot	<u>г</u> х	r X	r x	×	x	×	x	x	x	x	×	*
1	92640 Grille New Style in Door	<u>г</u> х	r X	r x	×	x	r x	^	x	x	x	×	×
3	91602 Bobertshaw Thermostat (WSL)	r	r		~	~					~		~
	(3/8" NPT inlet, 3/8" NPT outlet)	x	X	x	x	×	×	×	×	×	×	×	X
4	91601 White Rodger thermostat (1/4" NPT inlet, 3/8" NPT outlet)	×	×	x	x	x	×	×	x	x	×	×	x
5	91044 45° Elbow 3/8" x 3/8" - OLD						×	×					X
	91347 Elbow - 1/4" x 3/8" inlet - NEW	X	X	×	X	X							X
6	92615 Main Burner 6 Gallon	X	X	X	X	X		X					
	93221 Main Burner 10 Gallon								X	X	X	×	
7	92742 Main Burner Orifice (6 Gal.)	X	X	X	X	X							
	93914 Main Burner Orifice (10 Gal.)							X	X	X			
8	91441 90° Elbow 3/8" x 3/8"								X	X	X	×	
	92741 Main Burner Orifice Elbow -outlet	X	X	X	X	×							X
9	91603 Jade Pilot	X	X	X	X	X	X	X	X	X	X	X	X
10	91858 Door Hardware Kit	X	X	×	X	X	X		×	X	X	×	X
11	91514 Access Door (6 Gallon) Colonial White	X	X	×	X	X	×						×
	93993 Access Door (10 Gal.)								×	X	×	×	
12	91928 Set of 4 Corner Brackets	X	X	×	X	X	×	×	×	X	×	×	X
13	91857 Drain Plug 1/2"	Me	asure dra	ain co	upling 								
14	92698 Petcock Drain Valve 1/8" (WSL)	Me	asure dra	ain co	upling	~				~	~	~	
10	93804 Piezo Electrode - hard-wired		× ~		*	× ×				*	×	×	
10	93801 Ignition Module - hard-wired		~			~						^	
1/	93803 Piezo Willing Harness - Hard-Wiled	~	~	~	~	~						^	~
10	90010 Rilly & Gasket Kit for service tallk	~	~	<u>`</u>	~	~							~
19	91790 Diawii Pali o Gallon Pilot	^	^	^	^	^			v	v	v	~	^
20	01604 Pressure Temperature Belief Valve 1/2"	¥	¥	×	¥	×	×	¥	×	~ ×	~	~	x
20	00028 Pressure Temperature Relief Valve 3/A"	^	~ X		^	~ X		^				<u>^</u>	
20	92220 Styrofoam tank cover - bottom 6 gal	¥	~ У	¥	¥	^ ¥							x
<u> </u>	92221 Styrofoam tank cover - top 6 gal	r x	r X	~ X	~ ¥	r X							^
21	91238 Styrofoam tank cover - bottom 10 gal	r	r	^	^	~	x	¥	¥	x	¥	×	
<u> </u>	91239 Styrofoam tank cover - top 10 gal						r x	r X	r X	r x	r X	^ X	
22	01182 110\/ΔC 0n/Off Switch & Lot Boy (10 Col)								^ ¥	^		
22	01580 110 VAC Element (Bolt on)	/ ¥									v		
23		^		I		l i	I	I	I		^		1

REPL/ Janua	Pilot Water Heaters ACEMENT PART REFERENCE ary 2007	GC6A, GC6A-3, GC6A-6, GC6A-7	G6A, G6A-2, G6A-3, G6A-6, G6A-6P, G6A-7, G6A-7P	GH6-3, GH6-6, GH6-7	GC6AA-7, GC6AA-7P	GC6AA-8, GC6AA-8P	G610-3, G610-3E, GH610-3	G10B, G10C	GC10A-2	GC10A-2P	GC10-1, GC10-2, GC10-2P	G10-2, G10-2P	G4SM
24	92942 110VAC E.C.O. Switch (NLA)								×	x	×		
25	92943 110VAC 140° Thermostat								×	×	×		
26	91092 110VAC On/Off Rocker Switch (6 Gal.)	X			X	X							
	91089 110VAC On/Off Rocker Switch (10 Gal.)								X	X	X		
27	91853 110 VAC Thermostat (Rectangle) (NLA)	X									X		
28	91116 110VAC On/Off Switch & Jct Box (6 Gal.)					X							
29	92249 110 VAC Element/Gasket (screw-in)	X			X	X			X	X	X		
30	91873 Thermostat/E.C.O. 110 VAC	X			X	X			X	X	X		
N/S	91591 Conversion to Pilot 6 gallon 110VAC		X										
N/S	91596 Conversion to Pilot 10 gallon 110VAC										X	×	

Electric Side Combination Water Heaters





Electronic Water Heater 6-10 Gallon



First number in matrix refers to illustration number, the second is the part number.



REPLA Janua	El Vato cemei ry 200	ectronic er Heaters nt part reference	GCH6-4E, GCH6-6E, GCH6-7E, GC6A-7E	GH6-6E, GH6-7E, GH6-8E	G6A-6E, G6A-7E, G6A-8E	GCH6A-7E, GCH6A-8E, GCH6A-9E	GC6AA-7E, GC6AA-8E, GC6AA-9E	GCH10A-2E, GCH10A-3E, GC10A-2E, GC10A-3E	G10-1E, GH10-1E	G610-3E, GH610-3E	G10-2E G10-3E	GC10-1E, GC10-2E	GH10-2E, GH10-3E	G6A-2E, GH6-3E	G6A-3E, GH6-3E. GH6-4E, G6A-4E	GCH6A-10E, GC6AA-10E	GC10A-4E, GCH10A-4E
	91470	130° Front Mount thermostat (not s	hown)	×	×	×	×	×	×	×	×	X	×	×	X	X	X
	93105	Adjustable Thermostat (retrofits	×	X	X	X	X	X	X	X	X	X	X			X	X
	92610	front-mount thermostats) (not shown)	wn) X	X	X	X	X	X	X	x	X	X	X			X	x
1	90960	Flue Box and Gasket	<u>x</u>	X	X	X	X	X	X	X	X	X	X	X	X	X	X
2	92640	Grille, New Style in Door	×	X	X	X	X	X	X	•	X	×	×		-	X	X
2	90002	Extended Grille	×	X	X	X	X	X	X		X	X	X			X	X
3	91514	Access Door (6 Gal.) Colonial White	×	X	X	X	×							×	X	X	
3	93993	Access Door (10 Gal.)						×	×	X	X	X	X				X
NS	91420	Potted Circuit Board (post electrode connection)	No	Long	er Ava	ilable	(Use	91504	V								
4A	93865	Potted Circuit Board (Spade Electrode Connection	X	×	×	×	×	×	×	×	×	×	×	×	×		
4B	93851	Potted Circuit Board - Combo														X	X
5	91606	Electrode (Remote Sense) WSL	No	Long	er Ava	ilable	(Use	91504	V								
5A	93868	Electrode (Local Sense)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
6	93189	Wiring Harness	X	X	X	X	X	X	X	X	X	X	X	X	X		
6	93191	Wiring Harness Combo														X	X
7	91044	45° Elbow 3/8"	X	X	X	X	×	X	X	X	X	X	×	×	X	X	X
8	93870	White Rodger Valve (6 & 10 Gal.)	X	X	X	×	X	X	×	X	×	X	×	X	×	X	×
8A	93243	Gas Valve Bracket - (6 Gal.) (Use with 93870)	×	×	×	×	×							×	×	×	
	93862	Gas Valve Bracket - (10 Gal.) (Use with 93870)									×	×	×	×	×		×
8B	94787	Gas Valve Bracket - 1 piece				×	×	X			×		×	×		X	×
9	91563	Orifice Holder	X	X	X	×	X	×	X	X	×	×	×	X	×	×	X
10	92742	Orifice - Main Burner/6 Gallon	X	X	X	×	×									X	
10	93914	Urifice - Main Burner/10 Gallon						×	×	X	×	×			<u> </u>		X
11	91638	Main Burner 6 Gallon	X	X	X	X	X									X	
11	90200		~	~	~	~	× ~	×	~	×	×	×	×	~			
12	91000	Door Hardware Kit	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
13	91920	Ding & Casket Kit for convice tank	×	×		× ×	× ×	× ×	× ×	×	× ×	× ~	× ×	×	× ×		
14	00010	Styrofoam tank cover bottom	^ 	^ ¥	^ ¥	^ ¥	× ×	^	^				×	^			
10	92220	Styrofoam tank cover - top	^ 	^ 	^ 	^ 	^ ¥										
	92221	Styrofoam tank cover - hottom	^					×	×	y y	×	¥	Y	×			×
	01230	Styrofoam tank cover - top						×	^ 	×	^ 	^ 	^ ¥	r x	╞───		x
15-4	91802	Drawn Pan (Electronic & Gallon)	x	×	X	x	x								<u> </u>	×	
15-4	03871	Drawn Pan (Electronic 10 Gal)	r			^	×	x	x	x	x	X			<u> </u>		x
	00011							, , ,	, , ,		• ••	••			L		••

REPL Janu	El Wat ACEME lary 200	ectronic er Heaters NT PART REFERENCE	GCH6-4E, GCH6-6E, GCH6-7E, GC6A-7E	GH6-6E, GH6-7E, GH6-8E	G6A-6E, G6A-7E, G6A-8E	GCH6A-7E, GCH6A-8E, GCH6A-9E	GC6AA-7E, GC6AA-8E, GC6AA-9E	GCH10A-2E, GCH10A-3E, GC10A-2E, GC10A-3E	G10-1E, GH10-1E	G610-3E, GH610-3E	G10-2E G10-3E	GC10-1E, GC10-2E	GH10-2E, GH10-3E	G6A-2E, GH6-3E	G6A-3E, GH6-3E. GH6-4E, G6A-4E	GCH6A-10E, GC6AA-10E	GC10A-4E, GCH10A-4E	
16	91092	110VAC ON/OFF Switch (6 Gal.)	×			×	×											
16	91089	110VAC On/Off Switch (10 Gal.)						X				X						
17	91853	110 VAC Thermostat (Rect) NLA	X					X			X							
18	91580	110 VAC Element (Bolt-on)	X								X							
19	91182	110VAC UN/Uff Switch & Jct Box						X					X					
21	92942	110VAC E.C.U.										×						
22	92943	110VAC 140" Internitostat				v	~					~					\square	
23	91110	110VAC UII/UII SWILCII & JCL BUX	v		~			~							v	v	v	
24	92249	Thermostat/E.C.O. 110 VAC	^ 					∧ ▼							^	^		
20	910/3	Front Mount E C O /thormostat	^ 	v	v			∧ ▼	v	v	v	v	v		v	v	v	
20	91447	Drain Plug Kit 1/2"	Ŷ	×				Ŷ	×	×		×		×	^ x	×	×	
200	02608	Petcock Drain Valve 1/8" WSI	^						^		×							
30	91604	Pressure Belief Valve - 1/2"	X	x	x	X	x	x	x	x	X	x	x	x	x	x	x	
30	90028	Pressure Relief Valve - 3/4"		X	X						X		x	••	•	×	x	
31/	91859	Switch 12 VDC-White	X	X	x	×	x	x	×		X	X	×	x	x			
31 <i>A</i>	91959	Switch 12 VDC-Black	X	X	X	X	X	X	X		X	X	X	X	X			
31E	91230	Switch 12 VDC-White Combo						-			-			-		x	x	
33	93866	Thermal Cut-off	X	X	X	X	×	X	X	X	X	X	X	X	x	X	x	
N/S	90145	Fuse, Mini 2AMP	X	X	X	×	×	X			×	X	×			X	x	
N/S	93849	Relay														X	x	
N/S	91222	Junction Box 110V - 6 gal														X		
N/S	91224	Junction Box 110V - 10 gal															X	
N/S	91223	Junction Box Cover for 6 gal	<u> </u>															
N/S	94231	Recessed Flange - 10 gal																
N/S	94514	Recessed Flange - 6 gal																







XT WATER HEATER MPD 92690

REPLACEMENT VALVE KIT 10 GALLON

PATENT PENDING

ENGLISH, FRANCAIS (et Canada)

Installation
 Effective 8/25/05



10 GALLON TE 2004-2005



10 GALLON XT NEW FOR 2005-2006

- Remove water lines (1), flexible hoses (2), mixing valve (3) and inlet plumbing components (4).
- 2. Install new mixing valve (5) with teflon tape. Use three wraps and pipe thread sealer to leading threads and install to minimum 35 fl/lbs.
- Install male/male 90 degree fitting with a minimum of three wraps of teflon tape, stopping at approximately 1 o'clock on last turn.
- 4. Assemble tee to ball valve using a minimum of three wraps of teflon tape.
- 5. Install valve/tee assembly to elbow using a minimum of three wraps of teflon tape.

- 6. Finish turn on completed elbow/valve/tee assembly to horizontal position.
- 7. Adjust tee and valve so valve handle operates and tee is pointing branch thread upward.
- 8. Install flexible hose following instructions on hose tag.
- 9. Reconnect water lines. Apply Valve Position Sticker on back near valve.
- 10. Pressurize system to maximum 50 psi and check all connections for leaks with leak detecting solution.

XT WATER HEATER PART IDENTIFICATION



ITEM	O GALLON	TU GALLON		
REFERENCE	22 LITRES	38 LITRES	SPARK IGNITION	ALLUMAGE PAR ÉTINCELLE
1	×	X	≭ Tank	≭ Réservoir
2	90960	90960	Flue Box Assembly	Boîtier du conduit
3	91857	91857	Drain Plug	Bouchon de vidange
4A	91604	91604	Pressure-Temperature Relief Valve !/2" NPT	Soupape de décharge de type
4B	90028	90028	Pressure-Temperature Relief Valve 3/4" NPT	Soupape de décharge de type
9	93870	93870	Solenoid Valve	Électrovanne
11	91959	91959	Black on-Off Switch	Interrupteur Marche/Arrêt noir
	91859	91859	White On-Off Switch	Interrupteur Marche/Arrêt blanc
	91230	91230	Dual Switch	
12	93851	93851	Circuit Board	Circuit imprimé
13	93191	93191	Wiring Harness	Faisceau électrique
15	93866	93866	Thermal Cut Off	Coupure thermique
16	93868	93868	Spark Probe	Détecteur d'étincelle
17	91547	91547	ECO/T-STAT (kit)	Thermostat
			HEAT EXCHANGE	ÉCHANGE DE CHALEUR
1		×	*Tank	≭Réservoir
			COMBINATION GAS/ELECTRIC	GAZ – ÉLECTRICITÉ COMBINÉS
1	×	×	∗ Tank	*Réservoir
NS	92249	92249	Heating Element & Gasket	Élément de chauffe et joint
NS	93849	93849	Relay	Relais
18	90029	90029	Mixing Valve	
19	90030	90030	Ball Valve	
20	90031	90032	Tee	
21A	90032		9" Hose (6 gallon)	
21B		90033	12" Hose (10 gallon)	

Elbow

22

90034

90034

92690

9 6 GALLON

ELEMENT

-10

BLK

GREEN

115V

нот

GRN

- - - -

10 GALLON



Dotted lines are wired by customer

SERVICE TANK KIT

	_	~	_	~	~	6	_	~		~	~			~	
uary 2007	411	412	591	592	593	596	641	642	95(952	953	205	05(053	060
MODELS	91	91	91	91	91	91	91	91	93	93	93	94	91	91	9
GAS															
G6A-2, G6A-3, G6A-6, G6A-7		٠													
G10-1, G10-2												٠			
GAS PILOT-RELIGHT															
G6A-6P, G6A-7P		•													
GC6AA-7P, GC6AA-8P			•												
GAS/PILOT RELIGHT COMBINATION															
GC10-2P						•									
G10-1P, G10-2P												٠			
GC10A-2P, GC10A-3P						•									
GAS & ELECTRONIC IGNITION															
GH10-1E, GH10-2E, GH10-3E										•					
G10-1E, G10-2E, G10-3E, G16-EXT									•						
G6A-4E, G6A-6E, G6A-7E, G6A-8E, G9-E	ΧТ						•								
GH6-4E, GH6-6E, GH6-7E, GH6-8E								•							
GAS/ELECTRIC & ELECTRONIC IGNITION															
GCH6-4E, GCH6-6E, GCH6-7E				•											
GC6A-7E					•										
GCH10A-4E, GEH16-EXT															
GCH10A-1E, GCH10A-2E, GCH10A-3E											•				
GC10A-4E, GE16-EXT															•
GC10A-1E. GC10A-2E, GC10A-3E											•				
GC10-1E, GC10-2E											•				
GCH10-2E											•				
GAS/ELECTRIC COMBINATION															
GC6A-3, GC6A-6, GC6A-7, GC6AA-7, GC6A	A-8		•												
GCH6A-7E, GCH6A-8E, GCH6A-9E				•											
GCH6A-10E, GEH9-EXT														•	
GC6AA-7E, GC6AA-8E, GC6AA-9E					•										
GC6AA-10E, GE9-EXT													•		
GC10-1, GC10-2						•									
GC10A-2, GC10A-3						•									
HEAT EXCHANGE															
GH6-3, GH6-6, GH6-7	•			1											

NO REPLACEMENT TANK FOR G6A-3E

INNER TANK INCLUDES THE FOLLOWING:

- All tanks include the insulation jacket, rings and gaskets.
- On all combination gas/110VAC tanks, in addition to the items mentioned above, they will also come equipped with the 110VAC heating components attached (junction box, thermostat, ECO and heating element).
- Current combination gas/110VAC models have the thermostat and ECO located on the front side and are not installed on replacement tanks.



ITEM	part #	DESCRIPTION

- 1/2/390037Thermostat Kit, with ECO, plate, wires (110V)90041Thermostat Kit, with ECO, plate, wires (220V)493403Drain Valve 3/4"
 - 5 90045 Access Cover (NEW STYLE)
 - 6 92236 Insulator
 - 7 91498 Front & Rear Mounting Bracket (4 & 6 gal)
 - 91499 Front & Rear Mounting Bracket (11& 20 gal)
- 8 91580 Heating Element (110V) and gasket
- 91581 Heating Element (220V) and gasket
- 9 92679 Gasket Heating Element (110V)
- 91098 Gasket Heating Element (220V)
- 10 91604 Relief Valve (150 psi) 1/2" NPT
 - 92655 Relief Valve (75 psi) 1/2" NPT
 - 90028 Relief Valve (150 psi) 3/4" NPT
- 92647 Relief Valve (75 psi) 3/4" NPT N/S 91459 Thermostat for Solenoid Valve (
- N/S 91459 Thermostat for Solenoid Valve (EHP10) N/S 91782 Solenoid Valve (EHP10)
- N/S 91781 Water Valves (EHP10)

Range Table of Contents

Atwood & Wedgewood Ranges, Slide-In's, and Drop-In's

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• DV20, DV30	



After reviewing this manual, you should be able to answer the following questions:

- Are the Harper Wyman and Robertshaw valves, burners and manifolds interchangeable?
- · Can a Wedgewood range/oven be converted from LP to natural gas?
- · What is the difference between the standby pilot and heater pilot?
- $\cdot\,$ What are the three functions of the oven thermostat?
- · What is the function of the oven safety valve?
- · What is the difference between High BTU and High Pressure?
- · How do you adjust the flame on the top burner and what should the flame look like after that adjustment?
- · What is the temperature tolerance range on the oven thermostat?
- · What is recommended to clean the oven with?
- · How long is it recommended to preheat the oven before placing food in it?
- · How many inches should the edge of a pan be from any oven surface?
- After the thermostat is turned to the desired temperature, approximately how long should it take for the oven burner to come on?
- $\cdot\,$ Will the oven burner cycle 'on' and 'off' in the broil mode?
- · Can piezo ignition be added to a match lit range?

Regulators





Model Number Identification





Range & Oven Gas Components

Safety Pilot Valve

Robertshaw





Burner Valve

Oven Control / Thermostat

Harper Wyman





Oven Control / Thermostat

Maxi Burner Valve

Combination - Harper Wyman/Robertshaw





Robertshaw Oven Control / Thermostat

Harper Wyman



Harper Wyman Oven Harper Wyman Mini **Control / Thermostat**

Copreci

• Mercury free.



Copreci Oven

Thermostat



Burner Valve



Orifice Block

- Safety Pilot Valve



Pilot Valve

- · The top burner components mounted on a silver square manifold.
- Ranges in the serial number sequence WT30000 through W840000 used either this system or the Harper Wyman System.
- On a Robertshaw system the following exists: a. the face of the oven control says R.C.C. (Robertshaw Control Company)
- b. the lowest temperature on oven knob is 170°
- c. the face plate of oven control and burner valves have silver torx head screws.
- The top burner components mounted on a silver square manifold.
- Ranges in the serial number sequence WT30000 through
- W840000 used either this system or the Robertshaw System.
- On a Harper Wyman the following pertains:
- a. the face of the oven control says H.W. (Harper Wyman)
- b. the lowest temperature on oven knob is 140°
- c. the face plate screws on the burner and oven valves are black and have octagonal heads.
- Products whose model number is R or C ___7-___ have combined system (R2137-A).
- Top burner system is Harper Wyman
- Lowest temperature on oven knob is 170°
- Oven control system is Robertshaw
- · Ranges whose model number is
- R ____ 8- 32 have a complete Harper Wyman range valve system
- Cooktops whose model number is С 8- 32 to current model have a
- complete Harper Wyman valve system
- Top burners are Harper Wyman and linear.
- Lowest temperature on oven knob is 170°
- · Oven control and safety pilot valve are also Harper Wyman.
- Ranges whose model number is 3 have a Copreci oven thermostat R with Mueller burner valves for the stove top.
- Lowest temperature on oven knob is 300°
- Slide-ins whose model number is C_3 have Mueller burner valves.
- · Pilot assembly is White Rodgers

Pilot Assembly







Burner Valve

Harper Wyman Mini **Burner Valve**







Model 33 Sequence of Operation

Standard Pressure Regulator - this valve receives up to 13" W.C. gas pressure from LP bottles, and reduces it 10" W.C. for the manifold.

 $\mathbf{1}$

Manifold - a continually pressurized pipe distributing gas to top burner valves and oven valve.

Oven Thermostat (Copreci) - supplies gas to the oven pilot, main burner and regulates the oven temperature.

Ť

Pilot Assembly - the pilot looks exactly like the water heater pilot, but there are some differences (bend and thermocouple hole size). They are not interchangeable.

The operator holds the magnet in initially by pushing the knob at the pilot/push/hold rotation.

The pilot needs to be lit manually and held in for about 5 seconds.

 $\mathbf{1}$

Oven Thermostat - senses oven temperature by means of a thermal bulb (no mercury) located in the upper rear of the oven. The oven control knob is set to the desired temperature calling for heat; the fluid expands in the bulb, opens a seat in the thermostat and supplies gas to the orifice block. The block contains the orifice for the main burner. Gas enters the burner to be ignited from the pilot.

Oven Burner - the oven burner remains **on** once the oven is turned on. The **size** of the flame is changed (higher or lower) by the thermostat depending on the set temperature and whether the capillary has been satisfied.

NOTE: Safety valve will remain open as long as the thermal couple senses the pilot flame.



Component Identification

Sequence of Operation - Prior to Model 33

Standard Pressure Regulator - this valve receives up to 13" W.C.

pressure gas from LP bottles, and reduces it to 10[°] W.C. for the manifold.

6

Manifold - a continually pressurized pipe distributing gas to top burner valves and oven valve.

Ť

Oven Thermostat - supplies gas to the oven pilot, the safety pilot valve, and regulates the oven temperature.

PILOT ASSEMBLY

Standby Pilot - with the oven knob placed in the pilot position, the oven valve will supply gas to the pilot assembly. This standby pilot will stay lit until the oven knob is turned to the OFF position. It also supplies the gas for the heater pilot.

 \downarrow

Heater Pilot - on initial start-up, when the oven thermostat knob is turned to the desired temperature, the volume of gas increases from the thermostat and the smaller standby pilot increases to a larger heater pilot flame. This higher pilot flame heats the thermocouple thereby opening the safety pilot valve to allow gas to flow to the oven burner. The heater pilot thereafter only comes on when the thermostat calls for heat.

\checkmark

Component Identification

Safety Pilot Valve - controls the gas flow to the oven burner. The valve is operated by a thermal bulb located over the heater pilot. When this bulb is heated, it opens the safety pilot valve which then supplies gas to the oven burner.

 $\mathbf{1}$

Oven Thermostat - senses oven temperature by means of a thermal bulb located in the top of the oven. The oven control knob is set to the desired temperature calling for heat, the fluid expands in this bulb, opens a seat in the thermostat and supplies gas to the safety pilot for the higher heater pilot. This heater pilot initiates the process for starting the oven burner as described above. When the oven temperature is satisfied, the fluid in this bulb decreases which closes a seat in the oven valve and throttles the pilot size down to the standby pilot mode thereby shutting the oven burner OFF. This cycle will continue until the range is turned off.

- The temperature tolerance of the thermostat is ± 25°F.
- The oven burner will come on approximately 1-1/2 minutes from a cold start and 10 seconds from a hot start.
- The oven burner may cycle during the broil mode.







Cooking Appliance TROUBLE SHOOTING GUIDE

Effective: 12/15/06

Guides are only intended for use on Atwood[®] products by service technicians who have successfully completed Atwood[®] training. This guide should be used in conjunction with the appropriate Instruction Manual provided with the product and any applicable Industry Standards. This is not intended to be a complete list. Please direct questions concerning service of Atwood[®] products to 866-869-3118 before proceeding.

CAUSE	SOLUTION
RANGE PILOT WON'T LIGHT OR S	STAY LIT
Insufficient gas pressure	1. Check for gas leaks and have regulator checked by qualified LP gas technician
	2. Check gas supply
	3. Set pressure to 11" W.C. with two or more gas appliances running
Supply valve closed	Iurn valve on Clean pilot crifica with teethnick: clean flesh tubes
blocked flash tubes	
Pilot flame cover out of position,	Reposition pilot flame cover, and/or remove carbon and/or coated with carbon build up.
BURNER(S) WON'T LIGHT OR ST	AY LIT
Insufficient gas pressure	Check for gas leaks, have regulator checked by qualified LP gas technician
Incorrect air/gas mixture	Adjust air shutter if applicable
Blocked orifice	Clean with toothpick
BURNER LIGHTS, BUT FLAME IS	TOO SMALL
Improper gas pressure	Check for gas leaks, have regulator checked by qualified LP gas technician
Improper air/gas mixture	Adjust air shutter if applicable
Problem burner valve	Replace burner valve
Blocked orifice	Clean with toothpick
BURNER FLAME LIFTS OFF BURN	IER HEAD
Gas pressure too high	Have regulator check by a qualified LP gas technician
OVEN BURNER LIGHTS, BUT FLA	ME REMAINS VERY SMALL AND OVEN HEATS VERY SLOWLY —
Improper gas pressure Blocked orifice	Check for gas leaks, have regulator checked by qualified LP gas technician Clean with alcohol and cotton swab
OVEN BURNER FLAME LIFTS OFF	BURNER AND OVEN CYCLES TOO FREQUENTLY
Gas pressure too high	Have regulator checked by qualified LP gas technician, or improper gas mixture
OVEN COOKS UNEVENLY AND/OR	FOOD BURNS ON THE BOTTOM
Poor oven ventilation	Oven too full for proper circulation - must have 1" clearance in all directions. Ventilation holes in oven bottom (shelf above burner) are covered. Check the top vent (on back of range) it must be clear of all insulation, etc.
Problem thermostat	Replace thermostat.
Oven not preheated	Oven must be preheated at least 10 minutes.
Thermo bulb out of position	Thermobulb must be in clip on back of oven - pans cannot touch thermo bulb.



OVEN PILOT OUTAGE

Safety Thermal Bulb out of position	-Re-position the safety thermal bulb.
Problem thermostat	-Replace thermostat
Blocked oven vent	-Remove obstruction from vent
Incorrect oven burner gas/air mixture	-Readjust air

YELLOW FLAME TIPS

Improper gas-air mixture	Adjust air shutter if applicable
Low gas pressure	Check gas supply
	Check for leaks and have the regulator checked
	Set pressure to 11" water column
RA Ranges and Cooktops	
Improper orifice to burner alignment	Realign burner head and orifice tube assembly

Replace orifice

Operation and Trouble Shooting Guide - 33 Series

TO LIGHT THE PILOT

Turn the oven knob to the pilot position and push in. Hold in for at least 5 seconds until pilot is well established.

PILOT WILL NOT COME ON

Check to see if the gas is turned on. Is there gas in the tanks? Check for blockage of the orifice, pilot assembly, or pilot line. Check for kinks in the pilot line.

PILOT WILL NOT STAY ON

Hold oven knob, pilot position, for up to 30 seconds.

Check gas supply.

Confirm that thermocouple is fully inserted into the thermocouple holder.

Pilot flame out of position. Pilot flame is not engulfing thermocouple. Pilot assembly needs to be adjusted so that pilot flame is engulfing thermocouple.

Test thermocouple.

Thermostat knob is bottoming out on manifold cover (face plate). If knob can not fully engage, the magnet in the thermostat will not be established. Move manifold out further beyond face plate.

THERMOSTAT CALIBRATION

The ideal temperature variance is 25 degrees (plus or minus). This means that if the thermostat is set at 350 degrees, the temperature will range between 325 and 375. If the temperature exceeds 50 degrees, plus or minus, check for a kinked capillary tube.

Identification of Older Wedgewood Systems

Robertshaw Gas System - Regular Ovens and Cooktop

Models: Serial #'s begin with a W and consist of 6 digits.

(example W840000).

Robertshaw Gas System - High BTU 3 burner Range and

Cooktop Models: Serial #'s begin with a SB and consist of 4 to 9 digits.

PART DIFFERENCES FOR ALL HIGH BTU RANGES AND MAINTOPS-

- Same oven control, regulator, safety-pilot & oven burner as regular ovens & cooktops.
- Earlier models used 2-52123 burner valves on rear burners.
- Manifolds, top burners and maintops are different from standard ranges.

You can identify the system by one of the following:

- Look at the oven control face plate (behind the knob) H.W. = Harper Wyman R.C.C. = Robertshaw Control Co.
- By looking at the first temperature on the oven knob 140 degrees = Harper Wyman system 170 degrees = Robertshaw system
- 3. Manifold (shape and color)

Both Robertshaw and Harper Wyman use a dull grey square manifold pipe.

• Copreci, Robertshaw and Harper Wyman gas systems are not interchangeable.

HARPER WYMAN SYSTEMS EARLY WEDGEWOOD MODELS WITH OLDER SYSTEMS

Between the years of 1991 to 1993 our gas systems were divided between Harper Wyman and Robertshaw. The serial numbers that involve a Harper Wyman and Robertshaw system would be in serial number series W73000 to W839999. The burner maintops and all cosmetic parts are the same. The gas system will be the only difference.

DURING 1978 TO 1980 we used all black square manifolds with the above burner valve, but we used a different oven control/thermostat 3902262 which did not offer a constant burning pilot in oven. They light the pilot on LOW TEMP AND THEN MOVE TO DESIRED TEMPERATURE. When done cooking they simply turn to off. The pilot had to light each time they got ready to use the oven. This control is NO LONGER AVAILABLE, however, you can sub it with the following:

51095 - - -Oven control/thermostat looks just like the 3902262 but, this will have a pilot on position where they don't have to light pilot before each use. This control when subbing for the 3902262 must change the oven knob to 51059 (also, known as 52286) even though the controls look alike, the knobs must be changed to provide correct substitution.

Rest of the gas system is as follow:

- 51096 - -Burner Valve NO LONGER AVAILABLE (same as 51224)
- 51063 - Safety Valve (same as 51177)
- 51062 - Regulator (same as 52154)

All these parts are still available, no substitutes

DURING 1981 TO 1983 we used the black square manifold systems, along with a different Harper Wyman system, different from the one in 1991 to 1993.

DURING THE MIDDLE YEARS 1960'S TO 1972 Wedgewood used a gas system that used a black round manifold, with the oven control mounting to the front of the stove and does not mount to a manifold. This system is no longer available and no substitutions are available for that system. Part numbers and listed, Johnstone Supply Co. was the supplier. The obsolete part numbers were as follow:

Serial numbers on these ranges would start with the letters C, E, F, and consist of 5 to 6 digits.

Atwood will not be able to supply any parts.

During the Wedgewood years the part numbers consisted of 7 digits. When Atwood took over they needed the part numbers to consist of 5 digits only. Wedgewood took existing part numbers and dropped the 390 keeping the last four digits and added a 5 to the front (example: 3902281 became 52281). **DURING THE YEARS OF 1972 TO 1978** the following systems were used. We've noted the replacements for these no longer available controls. Serial numbers started with a J, K, G, H and consisted of 5 to 6 digits;

3901183 Oven control mounted to a black square manifold this control used two screws to mount it and the screws went completely through the oven control. NO LONGER AVAILABLE. **USE:** 51095 Oven control/thermostat (old 52281) looks different, takes shorter screws for mounting. MUST CHANGE KNOB FOR 51095 TO WORK. Order oven knob #51059, (old 52286) It is designed for the calibration of the control. **3901175** Oven control mounted to a black square manifold. This control installs the same as above, however, it had 3 ports on back; one for center gas pilot. NO LONGER AVAILABLE. **USE:** 51095 Oven control/thermostat (old 52281). It looks different, and will DISCONTINUE the center pilot between burners on top. To continue the forture you page to purchase new.

on top. To continue this feature you need to purchase new manifold pipe with ON and OFF valve for center pilot. Knob also needs to be replaced with 51059 (old 52286)

3901184 Oven control mounted to a black square manifold for eye level ranges only. NO LONGER AVAILABLE FOR SUBSTITUTE **3901224** Burner valve used with above controls same as 51224 or use blister pack number 51096. Still available from Atwood. They only mount to BLACK SQUARE MANIFOLDS.

DROP-INS - Wedgewood also, makes drop-in models (D20, D25, D30, D35). We have used this system approximately from the **END OF 1992 TO 1995**, however, February and March of 1995 we changed one burner valve on D30, D35 models. The front burner has been changed to a Hi BTU burner 6500 BTU valve on both burners for models D20 and D25.

Burner valves that are regular 5200 BTU have a black face plate, 6500 BTU valves have a gold face plate.

Maintops are ordered by Model number and color.

Before Atwood purchased Wedgewood in 1986 the model numbers were different. Below is a cross reference chart.

WEDGEWOOD	ATWOOD	DISCONTINUED						
T212	C30	T312	C35	D20				
T214	C40	T314	C45	D20				
T2122	R1730	T3122	R1735	D25				
T2130	R1740	T3130	R1745	D25				
T2150	R2140	T3150	R2145	D35				
T2142				D25SV				
				D25ST				
				S=25WHP				

If you have a Wedgewood Model number you can use the parts list for Atwood model numbers for cosmetic parts. Depending on the age of the range, the gas system may not be the same. Gas system parts are ordered by either Model or Serial number.

Wedgewood Models numbers discontinued are as follow:

W7102	T2172LL	W2172C
W7103	W2172LL	C7200
		C7300

Cooking Appliance Terminology

Terminology	Definition	Terminology	Definition
Burner Electrode	The spark source to light top burners with piezo/12 VDC	Piezo Igniter	An electro-mechanical device that can be used to ignite a top burner.
	electronic ignition. Replaceable for 33 range series.	Pilot Orifice	A precision drilled thimble shaped component that meters gas flow to
Calibration	The condition that determines		the pilot.
	whether the thermostat is registering temperatures properly.	Regulator	Device that reduces the high pressure from the LP bottles to a
CSA	American National Standard for		lower pressure for the appliances.
	Recreation Vehicle Cooking Gas Appliances	Sealed Burner	A burner head attached directly to the porcelain main top which
Electronic Ignition	12v DC module activated by switch		prevents spilling to the burner box.
	to ignite top burners.	Standby Pilot	The oven pilot that burns constantly
Heater Pilot	An extension of the standby pilot that opens the oven safety valve, on		and provides the base for the heater pilot.
	older ranges, to enable gas to flow to the oven burner.	Thermal Bulb	The bulb located in the oven and connected to the thermostat that
Main Burner Orifice	A precision drilled thimble shaped component that meters gas flow to the main burner.		contains thermal fluid and causes the thermostat to close and open based on the set cooking
Manifold	The constantly pressurized tube or		temperature.
	pipe that supplies gas to the burner valves.	Thermocouple	Senses pilot flame for the oven and controls safety valve and
Oven Safety Valve	The valve, on older ranges, that		thermostat.
	controls the gas flow to the main burner.	Yellow Tipping	A burner flame with excessive yellow tipping can be caused by
Oven Thermostat	It is the component that regulates the temperature of the oven at the desired cooking temperature and supplies gas for both the standby and heater pilots.		Improper gas/air mixture. Caused by improper alignment or restriction of orifice and venturi tube.



Model 33 Bi-fold Cover use with SLOTTED TOPS

MODEL NUMBER	DESCRIPTION	P/N #					
BFC2-B	black, single	54106					
BFC2-W	white, single	54107					
BFC2-S	stainless, single	54102					
(Applicable after serial number G10020000) Start date 10-2-06							
HINGE REPLACEMENT KIT 51031							

includes left and right hinges



Bi-fold Cover use with UNSLOTTED TOPS									
MODEL NUMBER DESCRIPTION P/N #									
BFC1-B	black, single	56417							
BFC1-W	white, single	56418							
BFC1-S	stainless, single	55895							
BFC9-B	black, single	56399							
BFC9-W	white, single	56398							
(Applicable before serial number G10020000)									



6



COUNTER CUT OUT DIMENSIONS - RECESSED R OVEN C 17 21 SLIDE-IN LAMINATE MPD MATERIAL PART # C D F А A А В Ε G IN MM 17 21 470 20.5 20.25 514 432 3 76 18.5 521 2.31 24.63 2.19 1/4 6 56397 533 59 625 56 1/32 .8 56391 17 432 21 533 3 76 18.5 470 20.5 521 1.84 47 24.63 625 2.19 56 20.25 514 RV & RA OVEN CV & CA 17 21′ SLIDE-IN LAMINATE MPD MATERIAL part # A A D F G A В C Ε IN MM MM MM MM MM MM MM IN MM IN MM IN IN MM IN IN IN IN IN 20 1/4 6 56397 16 406 508 3 76 17.75 451 19.75 502 2.31 59 24.63 625 2.19 56 20.25 514 2.19 20.25 20 451 19.75 47 24.63 625 1/32 .8 56391 406 508 3 76 17.75 502 1.84 56 514



		WEDG	EWOOD	ATWOOD		
ITEM	DESCRIPTION	RV		RA		
		1733	2133	1733	2133	
30	Door assembly includes handle - black steel	51977	51983	51977	51983	
- 30	Door assembly includes handle - white steel	51978	51984	51978	51984	
- 30	Door assembly includes handle - white glass	51981	51987	51982	51988	
- 30	Door assembly includes handle - black glass	51980	51986	51980	51986	
- 30	Door assembly includes handle - stainless steel	51958	51992	51958	51992	
- 30	Door assembly white handle - white steel	51957		51957		
	DOOR-Glass Insert - Sm Black	51881		51881		
	DOOR-Glass Insert - Lg black		51882		51882	
	DOOR-Glass Insert - Sm white	51883		51883		
	DOOR-Glass Insert - Lg WHITE		51884		51884	
31	Oven Door Handle - black	51124	51124	51124	51124	
	Oven Door Handle - white	51126	51126	51126	51126	

		W	/EDGEW0	OD	ATWOOD			
ITEM	DESCRIPTION		RV	CV	R	A	CA	
		1733	2133	33	1733	2133	33	
	Crota block	56070	56070	56070	F7100.*	E7100.*	57100.	
 2Δ	Grommet (1) 🐟	53009	53009	53009	57 190 *	57190 %	53000	
2R	Sealed Grate II-Channel (4) 🐟	00000	55005	00000	57194	57194	57194	
3	Top Spring Clip (2) 🗞	51035	51035	51035	51035	51035	51035	
4	Range Top Assy - white	52007	52007	52007	57300	57300	57300	
	Range Top Assy - black	52008	52008	52008	57299	57299	57299	
	Range Top Assy - Disque OBS - USE BLACK OR WHITE	56742	56742	56742	57205	57205	57205	
	Rurner Piezo - left rear	57205	57205	57205	37303	37303	37303	
5A	Burner, Matchlit - left rear	57206	57206	57206				
5B	Burner, Piezo - center front	57201	57201	57201				
<u>5B</u>	Burner, Matchilt - center front	57202	57202	57202				
50	Burner, Matchlit - right rear	57203	57203	57203				
5D	Burner, Piezo/Electronic Ignition	01201	0/201	01201	57276	57276	57276	
6	Bushing - Burner (3) 🛠	53011	53011	53011	53011	53011	53011	
7	Hex Nut (2) 🐟	50004	50004	50004	51004	51004	51004	
<u>8</u>	Brassure Regulator	52294	52294	52294	52294	52294	52294	
$\frac{9}{10}$	3-Burner Manifold (AFTER SFRIAL # F11040784) (Dbl D)	57217	57217	57216	57217	57217	57216	
	3-Burner Manifold (Before Serial # F11040783)	57270	57270	57268	57270	57270	57268	
11	Bolt-Valve (3) 🛠	57278	57278	57278	57278	57278	57278	
12	Bolt - Oven Thermostat	57266	57266		57266	57266		
	Valve, Burner-Mini 9000 BTU (AFTER SERIAL # F11030969) (GREEN)	57218	57218		57218	57252		
	Valve, Burner-Mini 9000 BTU (BEFORE SERIAL # 111030500) Valve, Burner-Mini 9000 BTU (AFTER SERIAL # F11040784) (GREEN)	57252	57252	57218	51252	51252	57218	
	Valve, Burner-Mini 9000 BTU (BEFORE SERIAL # F11040783)			57252			57252	
14	Valve, Burner-Mini 6500 BTU (AFTER SERIAL # F11030969) (YELLOW)	57213	57213		57213	57213		
	Valve, Burner-Mini 6500 BTU (BEFORE SERIAL # F11030968)	57251	5/251	57012	57251	57251	57012	
	Valve, Burner-Mini 6500 BTU (REFORE SERIAL # F11040784) (YELLOW)			57251			57251	
15	Burner Gasket Kit (INCLUDES 3)			01201	50140	50140	50140	
15A	Burner Tube - right rear				57110	57110	57110	
15B	Burner Tube - left rear				5/108	5/108	5/108	
150 15D	Burner Clin wire (3) 🐟				57109	57198	57198	
16	Thermostat, oven control	57294	57294		57294	57294	01100	
17	Piezo Igniter	56096	56096	56096	56096	56096	56096	
18	12V Ignition Module	57277	57277	57277	57277	57277	57277	
$\frac{19}{20}$	Piezo Knoh -hlack	51344	51344	51344	51344	51344	51344	
	Piezo Knob -white	53223	53223	53223	53223	53223	53223	
21	Burner Knob - black (3) 🛠	56148	56148	56148	56148	56148	56148	
	Burner Knob - white (3) 🛠	53221	53221	53221	53221	53221	53221	
22	Oven Thermostat Knob - black	57258	57258		57258	57258		
23	Control Panel Assy- w/o Label	57291	57291	*	37291	37291	*	
24	Control Panel Label	*	*	*	*	*	*	
25	Burner Box	51687	51687	51687	51687	51687	51687	
26	Burner Spring Clips (3) 🗞	F1000	F1070		57095	57095	57095	
2/	Uven Jan Oven rack	51969	519/0		51969	519/0		
29	Oven shelf	51670	51670		51670	51670		
32	Orifice Block	57271	57271		57271	57271		
33	Pilot Assembly	57247	57247		57247	57247		
34	Burner, oven	57275	57275		57275	57275		
36	Oven Can Trim	51975	51976		51975	51976		
37	Orifice Block Plate	57310	57310		57310	57310		
N/S	Wiring Harness - Electronic Ignition Switches				57262	57262	57262	
	WITHING Lead - Electronic Ignition Electrodes				57260	57260	57260	
N/S	Wiring Lead - Piezo (3) 🗞	57264	57264	57264	57264	57264	57264	
N/S	Burner Electrode (3) 🐟	54800	54800	54800	54800	54800	54800	
N/S	Hinge Assembly	51972	51991		51972	51991		
N/S	KIT - Door Seal	51060	51061		51060	51061		
<u> </u>	NII - Gas Tube Supply UVen	52212	52212	53218	5/2/3	5/2/2		
N/S	Thermal bulb clip	51364	51364	55210	51364	51364		
N/S	Towel Bar			53205	51001		53205	
		1	1	1		l	I	

N/S Not shown in illustration OBS - Obsolete Order quantity needed



ATWOOD - Oven & Slide-In Cooktop Parts Identification

ITEM	DESCRIPTION	RA-1732	RA-1731	RA-1730	RA-2132	RA-2131	RA-2130	CA-31	CA-30
1	Grate - BLACK (2) 🐟	57190	53443	53443	57190	53443	53443	57190	53443
2A	Grommet (4) 🐟	53009			53009			53009	
2B	Sealed Grate U-Channel (4) 🐟	57194			57194			57194	
3	Top Spring Clip (2) 💠	51035	51111	51111	51035	51111	51111	51035	
4	Range Top Assy - WHITE	57114	526340BS	526340bs	57114	526340BS	526340BS	57114	526340BS
	Range Top Assy - BLACK	57113	526330BS	526330bs	57113	526330BS	526330BS	57113	526330BS
5	Burner, Piezo/Electronic Ignition (3) �	57180	56207	56207	57180	56207	56207	57180	56207
	Burner, Piezo/Electronic Ignition BLACK (3) *		56325 米	56325 米		56325 米			56325Ж
6	Bushing - Burner (3) 🚸	53011			53011			53011	
7	Hex Nut (6) 🛠	51004	51004	51004	51004	51004	51004	51004	51004
8	Brass Fitting	52294	52294	52294	52294	52294	52294	52294	52294
9	Pressure Regulator	51062	51062	51062	51062	51062	51062	51062	51062
10	3-Burner Manifold old OBS								
	3-Burner Manifold - round	53198 第	53198 	53198 #	53198 #	53198ж	53199	53199	53199
11	Bolt - Valve (3) 💠	53207	56088	56088	53207	56088	56088	53207	
12	Bolt - Oven Thermostat (3) 🛠	53208	52125 米	52125 米	53208	52125Ж	52125業		
13	Valve, Burner - Mini 9000 BTU (1) 🛠	53201			53201			53201	
14	Valve, Burner - Mini 6500 BTU (2) 💠	53200			53200			53200	
15A	Burner Tube Assy -RR	57110			57110			<u>57110</u>	
15B	Burner Tube Assy - LR	57108			57108			57108	
150	Burner Tube Assy - CF	57109			57109			57109	
15D	Valve, Orifice Tube Assy-Mini 6500 - RR rd mfd		53206	53206		53206	53206		53206
15E	Valve, Orifice Tube Assy-Mini 6500 - LR rd mfd		53203	53203		53203	53203		53203
15F	Valve, Orifice Tube Assy-Mini 9000 - CF rd mfd		53202	53202		53202	53202		53202
16	Thermostat, oven control	56116	56116	56116	56116	56116	56116		
17	Piezo Igniter	56096	56096	56096	56096	56096	56096	56096	56096
18	12V Ignition Module	56162	56162	56162	56162	56162	56162	56162	56162
19	Valve Ignition Switch	56163	56163	56163	56163	56163	56163	56163	56163
20	Piezo Knob -black	51344	51344	51344	51344	51344	51344	51344	51344
20	Piezo Knob -white	53223	53223		53223			53223	
21	Burner Knob - black (3) 🛠	56148	56148	56148	56148	56148	56148	56148	56148
21	Burner Knob - white (3) 🐟	53221	53221	53221	53221	53221	53221	53221	53221
22	Oven Thermostat Knob - BLACK	53907	53907	53907	53907	53907	53907		
22	Oven Thermostat Knob - WHITE	53222	53222	53222	53222	53222	53222		
23	Control Panel - black	52621	52621	52621	52621	52621	52621	52621	52621
	Control Panel -Electric-white	52606	52606	52606	52606	52606	52606		
24	LABEL - Piezo - black	56177	56177	56177	56177	56177	56177	56179	56179
	LABEL - Piezo - white	56181	56181	56181	56181	56181	56181	56183	56183
	LABEL - Electric-black	56176	56176	56178	56176	56176	56178	56178	56178
	LABEL - Electric-white	56180	56180	56182	56180	56180	56182	56182	56182
N/S	Wiring Harness - Electronic Ignition Switches	56164	56164	56164	56164	56164	56164	56164	56164
	Wiring Harness - Electronic Ignition Electrodes	56165	56165	56165	56165	56165	56165	56165	56165
	Wiring Harness - Electronic Ignition Ground	56184	56184	56184	56184	56184	56184	56184	56184
	Wiring Lead - Piezo	56061	56061	56061	56061	56061	56061	56061	56061
25	Burner Box	51687	51687	51684	51687	51687	51684	51687	51684
26	Burner Clips (3) 🛠	57107			57107			57107	
27	Uven Can	51969	51969	51902	51970	51970	51901		
28	Oven rack	51069	51069	51069	51069	51069	51069		
29	Uven shelt	51670	51670	51670	51670	51670	51670		
30	DUUK asmbly - see DOOK CHART (left)	54404	54404	54404	54404	54.40.4			
31	Oven Door Handle - BLACK	51124	51124	51124	51124	51124	51124		
31	Oven Door Handle - WHITE	51126	51126	51126	51126	51126	51126		
32	Safety Valve	56120	56120	56120	56120	56120	56120		
33	Pilot Assembly	56121	56121	56121	56121	56121	56121		
34	Burner, oven	56123	56123	56123	56123	56123	56123		
35	Uveri Jan Irim Cefety Velve Diete	519/5	519/5	519/5	519/6	519/6	519/6		
30	Salety Valve Plate	50139	56139	50139	50139	51001	50139		
<u>N/S</u>	KIT - Door Seal	51060	51060	51060	51060	51061	51061		
N/S	NII - Gas IUDE KII	5106/	51067	5106/	51068	51068	51068		
	Duoi Spring - 17 (2) \diamond			ე1404₩			E1405		
	Duor Shund - 51 (5) ↔	E1070	E1070		E1001	E1001	51405		
	Towel Par	519/2	519/2		51991	51991		E2005	5200F
	IUWEI Dal Thormal Rulh Clin	51264	51064	51264	51264	51264	51264	00200	03200
11/3	mermai bulb olip	01004	51504	51504	51304	01304	51304		

N/S Not shown in illustration OBS - Obsolete Order quantity needed While supplies last



Oven Door Handle - WHITE

New door panel replaces old panel plus frame.

33

33

51584

51124

51126

51578

51124

51126

51124

51584+

51124

WEDGEWOOD VISION - Range & Slide-In Parts Identification

ITEM	DESCRIPTION	RV-1732	RV-1731	RV-2132	RV-2131	CV-32	CV-30
1	Grate - BLACK	56272	56722	56272	56272	56272	56272
2	Grommer (4) 🗞	53009	53009	53009	53009	53009	53009
3R	Top Bracket - right		51130		51130		51130
4	Bange Top Assy - white	52007	52635	52007	52635	52007	52685
	Range Top Assy - BLACK	52008	52636	52008	52636	52008	52636
	Range Top Assy - bisque OBS - use black or white						
	Range Top Assy - stainless steel	56742		56742		56742	
5-A	Burner, Piezo - LR	56156	56156	56156	56156	56156	56156
<u>5-A</u>	Burner, Matchlit - LR	56159	56159	56159	56159	56159	56159
<u>5-B</u>	Burner, Mezo - CF	56155	56155	56155	56155	56155	56155
<u> </u>	Burner Piezo - RR	56154	56154	56154	56154	56154	56154
<u> </u>	Burner, Matchlit - RR	56157	56157	56157	56157	56157	56157
6	Bushing - Burner (3) 🛠	53011	53011	53011	53011	53011	53011
8	Brass Fitting	52294	52294	52294	52294	52294	52294
9	Pressure Regulator	51062	51062	51062	51062	51062	51062
10	3-Burner Manifold	50158	50158	50158	50158	50159	50159
<u>NS</u>	3-Burner Manifold - round	53198		53198		53199	53199
11	Bolt - Valve (3) 🗞	56088	56088	56088	56088	56088	56088
12	Bolt - Oven Thermostat (2) 🗞	56125	56125	56125	56125		
$\frac{13}{14}$	Valve, Burner-Mini 9000 BTU (1) NLA						<u> </u>
14 NS	Valve, Burner-Mini 9000 BTU (2) NLA	53201	53201	53201	53201	53201	53201
	Valve, Burner-Mini 6500 BTU (2) 🛠	53200	53200	53200	53200	53200	53200
16	Thermostat. oven control	56116	56116	56116	56116	00200	
17	Piezo Igniter	56096	56096	56096	56096	56096	56096
20	Piezo Knob -black	51344	51344	51344	51344	51344	51344
20	Piezo Knob -white	53223		53223			
21	Burner Knob - Black (3) 🗞	56148	56148	56148	56148	56148	56148
21	Burner Knob - White (3) 🗞	53221	50007	53221	50007		
22	Oven Thermostat Knob - BLACK	53097	53097	53097	53097		<u> </u>
23	Control Panel Assy - BLACK	52621	52621	52621	52621	52621	52621
	Control Panel Assy - WHITE	52606	52606	52606	52606	52606	52606
24	I ABEL - Piezo - BLACK	56219	56219	56219	56219	56223	56223
	LABEL - Piezo - white	56224	56224	56224	56224	00110	
	LABEL - Matchlit - BLACK	56218	56218	56218	56218	56220	56220
25	Burner Box	51687	51687	51687	51687	51687	51687
26	Oven shelf	51670		51670			
27	Oven Can	51969	51969	51970	51970		
29A	Rear Top Clip (2) 🗞	51035		51035		51035	
29B	Clip Spring (4) 🗞		51111		51111		51111
30	Top Hold Down Clip		53057		53057		53057
31	Oven rack	51069	51069	51069	51069		
34	Safety Valve	56120	56120	56120	56120		
35	Pilot Assembly	56121	56121	56121	56121		
36	Burner, oven	56123	56123	56123	56123		
	Oven Can Trim	51975	51975	51976	51976		
38	Safety Valve Plate	56139	56139	56139	56139		
N/S	Wiring Lead - Piezo (3) 🗞	56097	56097	56097	56907	56097	56907
<u>N/S</u>	KIT - Door Seal	51060	51060	51061	51061		<u> </u>
<u>N/S</u>	KII - Gas IUDE KIT	51067	5106/	51068	51068		<u> </u>
	Hillige ASSY (2) 🍫	519/2	519/2	51991	51991	50010	E2010
N/5	Nylon Edge Guard (4) 🌣	53218	53218	53218	53218	53218	53218
<u> </u>	Towal Par	51364	51304	51364	51364	52205	53205
11/5	IUWEI DAI					53205	03205
				+			
——							<u> </u>
				+			<u> </u>
				1			
				1			<u> </u>
N/S No	t shown in illustration OBS - Obsolete Order quantity needed Whi	le sunnlies l	ast				

N/S Not shown in illustration OBS - Obsolete Order quantity needed While supplies last



WEDGEWOOD -Oven & Slide-In Cooktop Parts Identification

	WEDGEWOOD - DESCRIPTION	RW-1731	RW-1730	RW-2131	RW-2130	CW-30
1	Grate (2 hole) - BLACK	56271	56271	56271	56271	56271
2	Grate Boot (4) 🛠	53008	53008	53008	53008	53008
3	Grate Clip (2) 🛠	56150	56150	56150	56150	56150
4	Range Top (2 hole) - WHITE	53584	53584	53584	53584	53584
	Range Top (2 hole) - BLACK	53583	53583	53583	53583	53583
	Range Top (2 hole) - Almond OBS - USE BLACK OR WHITE					
5-A	Burner, Piezo - left rear OBS	56066	56066	56066	56066	56066
5-A	Burner, Matchlit - left rear OBS 発	56069	56069	56069	56069	56069
5-B	Burner, Piezo - center front OBS 発	56068	56068	56068	56068	56068
<u>5-B</u>	Burner, Matchlit - center front OBS %	56071	56071	56071	56071	56071
<u>5-C</u>	Burner, Piezo - right rear OBS	56067	56067	56067	56067	56067
<u> </u>	Burner, Matchlit - right rear OBS %	56070	56070	56070	56070	
6	Bushing - Burner (3) 🗞	53011	53011	53011	53011	53011
	Brass Fitting	52294	52294	52294	52294	52294
- 9	Pressure Regulator	51062	51062	51062	51062	51062
10	3-Burner Manifold	56160	56160	56160	56160	56072
10	Bolt Oven Thermostet (0) •	50000	50000	00000	00000	00000
12	Boil - Oven Thermostal (2) *	50125	50125	50125	50125	
13	Valve, Burner-Mini 9000 BTU (1) 🗞	53201	53201	53201	53201	53201
14	Valve, Burner-Mini 6500 BTU (2) 🗞	53200	53200	53200	53200	53200
	I hermostat, oven control	56116	56116	56116	56116	
	Piezo Igniter	56096	56096	56096	56096	56096
20		51344	51344	51344	51344	51344
21	KNOB - BURNER - BLACK (3) 🗞	56148	56148	56148	56148	56148
	KNUB - Uven Thermostat - BLACK	53097	53097	53097	53097	
24	Burner Box UBS	51684	51684	51685	51684	51684
		53110	53110	56101	56101	
	LADEL - WILLIOUL PIEZO UDS 76	56102	56102	56102	56102	<u></u>
- 25	TRIM - Left hand - PLACK ORS 92	53133	53133	53133	53133	53133
26	TRIM - Bight hand - BLACK OBS #	53134	53134	53134	53134	53134
27	TRIM - Vent - BLACK OBS	53525	53525	53525	53525	53525
28	Top Retaining Clip (4) 🛠	51410	51410	51410	51410	51410
29	Oven Door Handle - BLACK	51124	51124	51124	51124	
30	Oven Can	51969	51902 OBS	51970	51901 OBS	
31	Oven rack	51069	51069	51069	51069	
32	DOOR assembly includes handle - BLACK steel	51977	51873 OBS	51983	51871 OBS	
	DOOR assembly includes handle - WHITE steel	51978	51850 OBS	51984	51850 OBS	
	DOOR assembly includes handle - ALMOND steel OBS	51979	51894	51985	51893	
	DOOR assembly includes handle - WHITE glass			51987		
	DOOR assembly includes handle - BLACK glass	51980	51872	51986	51870 OBS	
	DOOR -Glass Insert - Sm BLACK	51881	51881			
	DOOR -Glass Insert - Lg BLACK	54000	54000	51882	51882	
	DUUK -GIASS INSERT - SM WHITE	51883	51883	E1004	E1004	
	DOOD Danal Smithage NLA yes 51501	5100F	E100F	51884	51884	
	DOOR -Panel - La plack NLA USE 51581	51005	51885	51000	51000	
	DOON - FAIRT - LY BLACK NLA USE 01003	51887	51887	01000	01000	
		51007	51007	51888	51888	
34	Safety Valve	56120	56120	56120	56120	
35	Pilot Assembly	56121	56121	56121	56121	
36	Burner, oven	56123	56123	56123	56123	
37	TRIM - Oven Can	51975		51976		
N/S	Enamel Door Liner	51989	51808 OBS	51990	51807 OBS	
N/S	Wiring Lead - Piezo	56097	56097	56097	56097	56097
N/S	KIT - Door Seal	51061	51060	51061	51061	
N/S	KIT - Gas Tube Kit (no fittings available)	51067	51067	51068	51068	
N/S	Towel Bar					53205
N/S Not	shown in illustration OBS - Obsolete Order quantity need	ded While	supplies last			

N/S Not shown in illustration OBS - Obsolete Order quantity needed While supplies last



CABINET & COUNTER CUT OUT CHART

	_	U	U	E
1-1/2	16-1/4	3-3/8 🔶	2-5/8 🔶	1-1/2 🔶
15	19	2 🔶	3-1/16 🔶	3 🔶
F	G			
-3/4 🔶	2-13/16 🕨			
-1/2 🔶	2-13/16 🕨			
	1-1/2 15 F -3/4 ◆ -1/2 ◆	$1-1/2$ $16-1/4$ 15 19 F G $-3/4 \blacklozenge$ $2-13/16$ $-1/2 \blacklozenge$ $2-13/16$	1-1/2 16-1/4 3-3/8 ◆ 15 19 2 ◆ F G -3/4 ◆ 2-13/16 ▶	1-1/2 16-1/4 3-3/8 ◆ 2-5/8 ◆ 15 19 2 ◆ 3-1/16 ◆ F G -3/4 ◆ 2-13/16 ▶

◆Minimum dimension ● Overall depth of drop-in



CUT OUT DIMENSIONS	Α	В	С	D	Е	F	G	н	I	J
D, DA Models - 2 Burners	11-5/8″	16-3/8″	2-1/4″ 🔶	3-1/8″ 🕨	3/4″ 🔶	4-3/4″ 🔶				
D , DA Models - 3 Burners	16-1/16″	19-3/16″	2-1/2″ 🔶	3-1/8″ ▶	2-3/8″ 🔶	4″ ♦				
D-26SLG	19″	14-1/8″	5/8″ 🔶	4-1/2″ ▶	3/4″ 🔶	2-3/4″ 🔶	3″			
D-26SV	11-5/8″	16-3/8″	4-3/8″ 🔶	3-1/8″ ▶	1″ ♦	1-1/8″ 🔶	4-1/4″	3-1/4″	4-3/4″	2-1/4″

Minimum dimension Deverall depth of cooktop

2- Burner LP Gas High Pressure Stove


CABINET & COUNTER CUT OUT CHART





RECESSED BI-FOLD COVER CUT OUT CHART



CABINET & COUNTER CUT OUT CHART - TABLEAU DE DECOUPE DES ELEMENTS ET DU COMPTOIR

CUT OUT DIMENSIONS Dimensions de la découpe	A	В	(RV/CV)	C (RA/CA)	D	E	F	G	† Minimum clearance to combustible
17" RV & RA Ranges Sária RV at RA 17"	17.75″	20.25″	1.13"†	2.13"†	16″ 406mm	0″	1.75″	1.5″	* The overall unit depth for CA models with
21" RV & RA Ranges	17.75″	20.25″	1.13"	2.13"†	20″	0″	1.75″	1.5″	cabinet face to back wall of cutout below
Série RV et RA 21" Slide-In CV & CA	451мм 17.75″*	514мм 20.25″	<u>29мм†</u> 1.13″†	<u>54мм†</u> 2.13″†	<u>508мм</u> 3″	Омм 0″	45мм 1.75″	<u>338мм</u> 1.5″	Counter. + Éloignement minimum des matériaux
Série CV et CA à encastrement	451мм	514мм	29мм†	54мм†	76мм	Омм	45мм	38мм	combustibles .(Typiquement sur les deux
17" RV & RA-N Series Série RV 43cm RV et RA-N	17.75″ 451мм	20.25″ 514мм	1.13″† 29мм†	2.13″† 54мм†	16″ 406мм	7/16″ 11мм	1.75″ 45мм	1.5″ 38мм	* La profondeur totale des modèles CA à
21" RV & RA-N Series	17.75″	20.25″	1.13″†	2.13″†	20″	7/16″	1.75″	1.5″	allumage électronique est de (464 mm) Ces dimensions sont celle de
Série RV 53cm RV et RA-N Slide-In CV & CA-N Series	451мм 17.75″	<u>514мм</u> 20.25″	<u>29мм†</u> 1.13″†	<u>54мм†</u> 2.13″†	<u>508мм</u> 3″	<u>11мм</u> 7/16″	45мм 1.75″	38мм 1.5″	la découpe entre la façade de l'élément
Série CV à encastrement CV et CA-N	451мм	514мм	29мм†	54мм†	76мм	11мм	45мм	38мм	comptoir.

NOTE: Maximum countertop overhang = 3/4" NOTE: rebord maximum du comptoir = 19 mm

RECESSED BI-FOLD COVER - COUVERCLE PLIANT EN DEUX PARTIES ENCASTRÉ

LAMINATE MATERIAL Matériau stratifié	MPD Part #	RV & RA 17″	OVEN 21″	CV & CA Slide-in		CUT OUT	DIMENSIONS -	DIMENSIONS DE L <i>i</i>	A DÉCOUPE	
		Α	A	A	B	C	D	E	F	G
1/4″	56397	16.0″	20.0″	3.0″	17.75″	20.0″	2.31″	24.5″	2.13″	20.25″
6 mm		406 mm	508 mm	76 mm	451 mm	508 mm	59 mm	622 mm	54 mm	514 mm
1/32″	56391	16.0″	20.0″	3.0″	17.75″	20.0″	1.84″	24.5″	2.13	20.25″
.8 mm		406 mm	508 mm	76 mm	451 mm	508 mm	47 mm	622 mm	54 mm	514 mm









C-37, C-38 R-1737, R-1738, R-1746 R-2137, R-2138, R-2146

PART REFERENCE

Effective: 10/1/96









WEDGEWOOD - Oven & Slide-In Cooktop Part Reference

1 56271 56271 53007(2) 56271 53007(2) Grate (1-pice) 2 53582 53582 53582 53582 53583 53583 53583 53583 53583 53583 53583 53583 53584	ITEM	C-37	C-38	R-1737	R-1738	R-1746	R-2137	R-2138	R-2146	DESCRIPTION
1 56271 56271 53007 (2) 56271 53007 (2) Grate (1-piece) 2 53582 53582 53582 53582 53583 **Range, Top (2 hole) ALMOND 2 53584 53583 53583 53583 53583 **Range, Top (2 hole) ALMOND 2 53584 53584 53584 53584 53584 52294 F2294 F2194 F2144 <td></td>										
2 53582 53582 53582 53582 53582 #Range, Top (2 hole) BLACK 2 53583 53583 53583 53583 53583 *Range, Top (2 hole) BLACK 2 53584 53584 53584 53584 53584 *Range, Top (2 hole) BLACK 3 52294 52294 52294 52294 52294 52294 52294 Fitting, Brass 4 51062 51062 51062 51062 51062 51062 Pressure Regulator 5 56072 56070 56160 56160 56160 3-Burner Manifold 6 56088 56088 56088 56088 56088 56089 Piezo Igniter 10 51344 51344 51344 51344 51344 Piezo Igniter 11 51337 51337 51337 51337 51337 #10 x 3/8" Serew (2) 12 56148 56108 56107 56107 56107 56107 56107 56107 56107	1	56271	56271	56271		53007 (2)		56271	53007 (2)	Grate (1-piece)
2 53583 53583 53583 53583 \$3583 **Range, Top (2 hole) BLACK 2 53584 53584 53584 53584 53584 53584 53684 **Range, Top (2 hole) WHITE 3 52294 <t< td=""><td>2</td><td>53582</td><td>53582</td><td>53582</td><td>53582</td><td></td><td>53582</td><td>53582</td><td></td><td>*Range, Top (2 hole) ALMOND</td></t<>	2	53582	53582	53582	53582		53582	53582		*Range, Top (2 hole) ALMOND
2 53584 53584 53584 53584 53584 53584 53584 53584 52294 52294 52294 52294 52294 52294 52294 52294 52294 52294 52294 52294 52294 52294 52294 52294 51062 Filting, Brass 4 51062 5100 5201 53201 53201 53201 53201 53201 53201 53201 53201 53201 53201 53201 53201 53201 53201 53201 53201 5321 53237 51337 51337	2	53583	53583	53583	53583			53583		*Range, Top (2 hole) BLACK
3 52294 52294 52294 52294 52294 Fitting, Brass 4 51062 51062 51062 51062 51062 51062 51062 91062 3-Burner Manifold 5 56072 56070 56160 56160 3-Burner Manifold 6 6 56088 56088 56088 56088 56091 Valve thru Bolt 53200 53200 53200 53200 53200 Valve, Burner-Mini 6500 BTU (2) 8 53201 53201 53201 53201 Valve, Burner-Mini 9000 BTU (1) 9 56096 56096 56096 56096 96096 96096 10 51344 51344 51344 51344 91920 Igniter 91020 Igniter 11 51337 51337 51337 51337 51337 #10 x 3/8" Screw (2) 12 56148 56148 56148 56148 56148 5615 Control Panel Assembly Matchi 13 56105 56107 <td< td=""><td>2</td><td>53584</td><td>53584</td><td>53584</td><td>53584</td><td>53584</td><td>53584</td><td>53584</td><td></td><td>*Range, Top (2 hole) WHITE</td></td<>	2	53584	53584	53584	53584	53584	53584	53584		*Range, Top (2 hole) WHITE
4 51062 51062 51062 51062 51062 Pressure Regulator 5 56072 56072 56160 56160 56160 3-Burner Manifold 6 56088 56088 56088 56088 56088 56091 Valve thru Bolt 53200 53200 53200 53200 53200 Valve, Burner-MiNI 6500 BTU (2) 8 53201 53201 53201 53201 53201 Valve, Burner-MiNI 6500 BTU (2) 8 53201 53201 53201 53201 53201 Valve, Burner-MiNI 9000 BTU (1) 9 56096 56096 56096 Piezo Igniter Piezo Knob 10 51344 51344 51344 51344 51344 Piezo Knob 11 51337 51337 51337 51337 51337 #10 x 3/8" Screw (2) 12 56148 56148 56148 56148 56156 (2) Knob, burner N/S 56097 56097 56107 56115 Control P	3	52294	52294	52294	52294	52294	52294	52294	52294	Fitting, Brass
5 56072 56160 56160 3-Burner Manifold 6 56088 56088 56088 56088 56088 56088 56088 56088 56088 56088 56088 56088 56088 56088 56088 56088 56088 56091 Valve, Burner-Mini 6500 BTU (2) 8 53201 53201 53201 53201 53201 53201 Valve, Burner-Mini 6500 BTU (2) 9 56096 56096 56096 56096 Piezo Igniter 10 51344 51344 51344 51337 51337 Knob 11 51337 51337 51337 51337 Knob, burner N/S 56097 56097 56097 Wire Assembly (3) 13 56106 56108 56115 56107 56115 Control Panel Assy / piezo 14 53020 53021 53021 53023 5323 5325 53525 53525 53525 53525 53525 53525 53525 <t< td=""><td>4</td><td>51062</td><td>51062</td><td>51062</td><td>51062</td><td>51062</td><td>51062</td><td>51062</td><td>51062</td><td>Pressure Regulator</td></t<>	4	51062	51062	51062	51062	51062	51062	51062	51062	Pressure Regulator
6 56088 56088 56088 56088 56088 56088 56088 56091 Valve thru Bolt 53200 53200 53200 53200 53200 Valve, Burner-MMI 6500 BTU (2) 8 53201 53201 53201 53201 Valve, Burner-MMI 6500 BTU (2) 9 56096 56096 56096 56096 Piezo Igniter 10 51344 51344 51344 51344 Piezo Knob 11 51337 51337 51337 51337 Karan #10 x 3/8" Screw (2) 12 56148 56148 56148 51056 (2) Knob, burner Wire Assembly (3) 13 56106 56107 56115 56107 56115 Control Panel Assembly Matchil 53020 53021 53021 53023 53023 53023 53024 53024 53024 Trim, right hand top & side (blk) 15 53020 53022 53022 53024 53024 53024 53024 53024 53256	5	56072	56072	56160	56160		56160			3-Burner Manifold
53200 53200 53200 53200 53200 Valve, Burner-MINI 6500 BTU (2) 8 53201 53201 53201 53201 53201 Valve, Burner-MINI 9000 BTU (1) 9 56096 56096 56096 56096 56096 Piezo Igniter 10 51344 51344 51344 51344 51344 Piezo Knob 11 51337 51337 51337 51337 51337 4*10 x 3/8" Screw (2) 12 56148 56148 56148 56148 56148 56105 Knob, burner N/S 56097 56097 56097 56097 Wire Assembly (3) 13 56106 56105 56107 56115 56108 56115 Control Panel Assembly Matchil 56105 56107 56107 56115 56107 56115 50107 56115 Control Panel Assew/ piezo 14 5320 53021 53021 53022 53022 53255 53525 53525 53526 53526 </td <td>6</td> <td>56088</td> <td>56088</td> <td>56088</td> <td>56088</td> <td>56091</td> <td>56088</td> <td>56088</td> <td>56091</td> <td>Valve thru Bolt</td>	6	56088	56088	56088	56088	56091	56088	56088	56091	Valve thru Bolt
8 53201 53201 53201 53201 53201 Valve, Burner-MINI 9000 BTU (1) 9 56096 56096 56096 56096 Piezo Igniter 10 51344 51344 51344 51344 Piezo Knob 11 51337 51337 51337 51337 #10 x 3/8" Screw (2) 12 56148 56148 56148 56148 56197 56097 56097 Wire Assembly (3) 13 56106 56108 56108 56107 56107 56107 56115 Control Panel Assembly Matchil 56105 56107 <t< td=""><td></td><td>53200</td><td>53200</td><td>53200</td><td>53200</td><td></td><td>53200</td><td>53200</td><td></td><td>Valve, Burner-MINI 6500 BTU (2)</td></t<>		53200	53200	53200	53200		53200	53200		Valve, Burner-MINI 6500 BTU (2)
9 56096 56096 56096 56096 Piezo Igniter 10 51344 51344 51344 51344 51344 Piezo Knob 11 51337 51337 51337 51337 51337 #10 x 3/8" Screw (2) 12 56148 56148 56148 56148 56168 51056 (2) Knob, burner N/S 56097 56097 56097 56097 56097 Wire Assembly (3) 13 56106 56108 56108 56107 56107 56115 56107 56115 Control Panel Assembly Matchil 53020 53021 53021 53021 53023 53023 53023 Trim, left hand top & side (blk) 15 53020 53022 53022 53024 53024 Trim, vent (black) 17 53526 53526 53526 53526 53526 53526 53526 53526 53526 53526 53526 53526 53526 53526 53527 Trim, bettom (black)	8	53201	53201	53201	53201		53201	53201		Valve, Burner-mini 9000 btu (1)
10 51344 51344 51344 51344 51344 51344 Piezo Knob 11 51337 51337 51337 51337 51337 51337 #10 x 3/8" Screw (2) 12 56148 56148 56148 56148 56148 56148 51056 (2) Knob, burner N/S 56097 56097 56097 56097 S6097 S6097 S6097 S6097 S6097 S6097 Wire Assembly (3) 13 56106 56105 56107 56115 56107 56115 Control Panel Assembly Matchl 50105 53019 53021 53021 53023 53023 53023 Trim, left hand top & side (blk) 15 53020 53022 53022 5325 53525 53525 53525 53526 53526 53526 53526 53526 53526 53526 53526 53526 53526 53526 53526 53526 53526 53526 53526 53526 53526 536071	9	56096	56096	56096	56096		56096	56096		Piezo Igniter
11 51337 51337 51337 51337 51337 51337 #10 x 3/8" Screw (2) 12 56148 56148 56148 56148 56148 51056(2) Knob, burner N/S 56097 56097 56097 56097 56097 Wire Assembly (3) 13 56106 56106 56108 56115 56107 56115 Control Panel Assembly Matchl 56105 56105 56107 56115 56107 56115 Control Panel Assembly Matchl 15 53020 53021 53021 53023 53023 53023 Trim, left hand top & side (blk) 15 53020 53022 53022 53024 53024 53024 Trim, right hand top & side (blk) 16 53525 53525 53525 53525 53526 53526 53526 53526 53526 53526 53526 53526 53526 53526 53526 53526 53526 53526 53526 53526 53526 53526 <td< td=""><td>10</td><td>51344</td><td>51344</td><td>51344</td><td>51344</td><td></td><td>51344</td><td>51344</td><td></td><td>Piezo Knob</td></td<>	10	51344	51344	51344	51344		51344	51344		Piezo Knob
12 56148 56148 56148 51056(2) Knob, burner N/S 56097 56097 56097 56097 56097 Wire Assembly (3) 13 56106 56108 56108 56115 56107 56115 Control Panel Assembly Matchli 56105 56107 56107 56107 56107 56107 56115 Control Panel Assembly Matchli 53019 53021 53021 53021 53023 53023 53023 53024 Trim, right hand top & side (blk) 15 53020 53022 53022 53024 53024 53024 Trim, right hand top & side (blk) 16 53525 53525 53525 53526 53526 53526 Trim, vent (black) 17 53011	11	51337	51337	51337	51337		51337	51337		#10 x 3/8" Screw (2)
N/S 56097 56097 56097 56097 Wire Assembly (3) 13 56106 56108 56108 56115 56108 56115 Control Panel Assembly Matchl 56105 56105 56107 56107 56107 56107 56107 56115 Control Panel Assembly Matchl 14 53019 53021 53021 53021 53023 53023 53023 Trim, left hand top & side (blk) 15 53020 53022 53022 53022 53024 53024 53024 Trim, right hand top & side (blk) 16 53525 53525 53525 53525 53525 53526 Trim, vent (black) 17 53526 53526 53526 53526 53526 53526 Trim, bottom (black) 18 51685 51684 51684 51684 51684 51684 51684 51684 56071 56071 Burner, ctr (hi output) Matchlit 56068 56068 56068 56068 56068 56069	12	56148	56148	56148	56148	51056 (2)	56148	56148	51056(2)	Knob, burner
13 56106 56108 56108 56108 56108 56108 56115 Control Panel Assembly Matchl 14 53019 53019 53021 53021 53021 53023 53023 53023 Trim, left hand top & side (blk) 15 53020 53020 53022 53022 53022 53024 53024 53023 Trim, right hand top & side (blk) 16 53525 53525 53525 53525 53526	N/S	56097	56097	56097	56097		56097	56097		Wire Assembly (3)
56105 56105 56107 56107 56115 56107 56115 Control Panel Assy w/ piezo 14 53019 53019 53021 53021 53023 53023 53023 53023 Trim, left hand top & side (blk) 15 53020 53020 53022 53022 53024 53024 53024 Trim, right hand top & side (blk) 16 53525 53525 53525 53525 53525 53526	13	56106	56106	56108	56108	56115	56108	56108	56115	Control Panel Assembly Matchlit
14 53019 53021 53021 53023 53023 53023 Trim, left hand top & side (blk) 15 53020 53020 53022 53022 53024 53024 53024 Trim, right hand top & side (blk) 16 53525 53525 53525 53525 53525 53525 53525 53525 53526 </td <td></td> <td>56105</td> <td>56105</td> <td>56107</td> <td>56107</td> <td>56115</td> <td>56107</td> <td>56107</td> <td>56115</td> <td>Control Panel Assy w/ piezo</td>		56105	56105	56107	56107	56115	56107	56107	56115	Control Panel Assy w/ piezo
15 53020 53022 53022 53022 53024 53024 53024 Trim, right hand top & side (blk 16 53525 53525 53525 53525 53525 53525 53525 53525 53525 53525 53526	14	53019	53019	53021	53021	53021	53023	53023	53023	Trim, left hand top & side (blk)
16 53525 53525 53525 53525 53525 53525 53525 53525 53525 53525 53526 53521 53521 53521 53521 53521 53521 53521 53526 53526 53526 53526 53526 53521 53526 53526 53526 53526 53526 53526 53526 53526 56	15	53020	53020	53022	53022	53022	53024	53024	53024	Trim, right hand top & side (blk)
17 53526 53526 53526 53526 53526 53526 53526 Trim, bottom (black) 18 51685 51685 51684 51684 51684 51684 51684 51684 Burner Box 19 53011 53011 53011 53011 53011 53011 53011 Burner, ctr (hi output) Matchlit 20 56071 56071 56071 56071 56071 Burner, ctr (hi output) Matchlit 56068 56068 56068 56068 56068 Burner, ctr (hi output) W/Electro 21 56069 56069 56069 56069 56257 Burner, left rear Matchlit 22 56070 56066 56066 56066 56066 Burner, right rear Matchlit 56066 56067 56070 56070 56070 56070 56259 Burner, right rear W/ electrode 22 56070 56070 56067 56067 56067 Burner, right rear W/ electrode 23 56067 56067	16	53525	53525	53525	53525	53525	53525	53525	53525	Trim, vent (black)
18 51685 51684 51684 51684 51684 51684 51684 Burner Box 19 53011 54067 56068 56068 56069 56059 56066 56066 56066 56066 56070 56070 5607	17			53526	53526	53526	53526	53526	53526	Trim, bottom (black)
19 53011 53011 53011 53011 53011 53011 53011 Burner Bushing 20 56071 56071 56071 56071 56071 56071 Burner, ctr (hi output) Matchlit 56068 56068 56068 56068 56068 56068 Burner, ctr (hi output) W/Electro 21 56069 56069 56069 56066 56066 Burner, left front 21 56066 56066 56066 56066 56066 Burner, left rear Matchlit 56066 56066 56066 56066 56066 Burner, left rear W/ electrode 22 56070 56070 56070 56067 56067 Burner, right rear W/ electrode 23 56067 56067 56067 56067 56125 56125 56125 56125 24 52120 56125 56125 56125 56125 Screw, Thermostat (2) 25 NA 56116 NA 56116 Thermostat, oven control	18	51685	51685	51684	51684	51684	51684	51684	51684	Burner Box
20 56071 56071 56071 56071 56071 Burner, ctr (hi output) Matchlit 56068 56068 56068 56068 56068 56068 Burner, ctr (hi output) W/Electro 21 56069 56069 56069 56069 56069 56257 Burner, left front 21 56066 56066 56066 56069 56259 56259 Burner, left rear Matchlit 56066 56066 56066 56066 56066 Burner, left rear Matchlit 56067 56070 56070 56070 56070 56067 Burner, right rear Matchlit 56067 56067 56067 56067 56067 56067 Burner, right rear W/ electrode 23 52120 56125	19	53011	53011	53011	53011	53011	53011	53011	53011	Burner Bushing
56068 56068 56068 56068 56068 Burner, ctr (hi output) w/Electron 21 56069 56069 56069 56069 56069 56257 Burner, left front 21 56066 56069 56069 56069 56259 Burner, left rear Matchlit 56066 56066 56066 56066 56066 Burner, left rear Matchlit 56067 56070 56070 56067 56067 56067 Burner, right rear Matchlit 56067 56067 56067 56067 56067 56258 Burner, right rear w/ electrode 23 52120 56125 56125 56125 56125 56125 56125 24 52120 56125 <td< td=""><td>20</td><td>56071</td><td>56071</td><td>56071</td><td>56071</td><td></td><td>56071</td><td>56071</td><td></td><td>Burner, ctr (hi output) Matchlit</td></td<>	20	56071	56071	56071	56071		56071	56071		Burner, ctr (hi output) Matchlit
21 56069 56069 56069 56069 56069 56257 Burner, left front 21 56069 56069 56069 56069 56259 56069 56259 Burner, left rear Matchlit 56066 56066 56066 56066 56066 56066 Burner, left rear Matchlit 22 56070 56070 56070 56260 56070 56260 Burner, right rear Matchlit 56067 56067 56067 56067 56067 Burner, right rear W/ electrode 23 52120 56125 56125 56125 56125 56125 56125 24 52120 56125 56125 56125 56125 Screw, Thermostat (2) 25 NA 56116 NA 56116 Thermostat, oven control 26 53001 56171 53001 56171 Knob, oven thermostat	L	56068	56068	56068	56068		56068	56068		Burner, ctr (hi output) w/Electrode
21 56069 56069 56069 56069 56069 56259 Burner, left rear Matchlit 56066 56066 56066 56066 56066 56066 Burner, left rear Matchlit 22 56070 56070 56070 56070 56070 56250 Burner, right rear Matchlit 56067 56067 56067 56067 56067 56067 Burner, right rear W/ electrode 23 52120 56125 561						56257			56257	Burner, left front
56066 56066 56066 56066 56066 Burner, left rear w/ electrode 22 56070 56070 56070 56070 56070 56260 Burner, right rear Matchlit 56067 56067 56067 56067 56067 56067 Burner, right rear w/ electrode 23 52120 56125 56125 56125 56125 Screw, Thermostat (2) 24 52120 56116 NA 56116 Thermostat, oven control 26 53001 56171 53001 56171 Knob, oven thermostat	21	56069	56069	56069	56069	56259	56069	56069	56259	Burner, left rear Matchlit
22 56070 56070 56070 56070 56260 56070 56260 Burner, right rear Matchlit 56067 56067 56067 56067 56067 56067 Burner, right rear Matchlit 23 52120 56125 56125 56125 56125 56125 Screw, Thermostat (2) 24 52120 56116 NA 56116 Thermostat, oven control 25 NA 56171 53001 56171 Knob, oven thermostat		56066	56066	56066	56066		56066	56066		Burner, left rear w/ electrode
56067 56067 56067 56067 56067 Burner, right rear w/ electrode 23 56258 56258 56258 Burner, right rear w/ electrode 24 52120 56125 56125 56125 56125 Screw, Thermostat (2) 25 NA 56116 NA 56116 Thermostat, oven control 26 53001 56171 53001 56171 Knob, oven thermostat	22	56070	56070	56070	56070	56260	56070	56070	56260	Burner, right rear Matchlit
23 56258 56258 56258 Burner, right front 24 52120 56125 52120 56125 56125 Screw, Thermostat (2) 25 NA 56116 NA 56116 Thermostat, oven control 26 53001 56171 53001 56171 Knob, oven thermostat		56067	56067	56067	56067		56067	56067		Burner, right rear w/ electrode
24 52120 56125 52120 56125 56125 56125 Screw, Inermostat (2) 25 NA 56116 NA 56116 Thermostat, oven control 26 53001 56171 53001 56171 Knob, oven thermostat	23			50400	50405	56258	50400	50405	56258	Burner, right front
25 NA 56116 NA 56116 Inermostat, oven control 26 53001 56171 53001 56171 Knob, oven thermostat	24			52120	56125	56125	52120	56125	56125	Screw, Thermostat (2)
26 53001 56171 53001 56171 Knob, oven thermostat	25				56116			56116		Inermostat, oven control
	20			53001	56171	C1000	53001	561/1	51000	Knob, oven thermostat
27 51069 51069 51069 51069 51069 51069 UVEN rack	21			51069	51069	51069	51069	51069	51069	Oven rack
NO LONGER AVAILABLE DOOT ASSEMDLY	<u> </u>						NOL	ONGER AVAIL	ABLE	Door assembly
NO LONGER AVAILABLE Enamel door liner w/window							NUL	ONGER AVAIL	ABLE	Enamel door liner w/window
NO LONGER AVAILABLE ENAITED OUT INTER							NOL	ONGER AVAIL	ABLE	Solid door popel
NUC NU LDNGER AVAILABLE Solid dool parlet							NUL	DNGER AVAIL	ABLE	
N/S NU LDNGER AVAILABLE IIISEIL, DIACK Glass w/window	11/3						NUL	DNGER AVAIL	ABLE	Insert, black glass
NUC E1401 E1401 E1401 E1401 E1401 E1401 E1401 Window inner accombly				51401	51401	51401	NU L	ET 401	ABLE E1401	Window inper accombly
W/S 51421 51421 51421 51421 51421 51421 Wildow, Initial assembly 20 51112 51112 51112 51112 51112 51112 0von Door Handle	20			51110	51110	51110	51110	51110	51110	Oven Deer Handle
29 5112 5112 5112 5112 5112 5112 5112 0Vell Duol Haliule	29			01112	56120	56120	51112	56120	56120	Safaty Valva
30 30120 30000000000	21			51065	56121	56121	51065	56121	56121	Dilot Assombly
51063 51063 51063 51063 51063 51063 51063 51063 51063 51063				51063	50121	50121	51063	30121	30121	Pilot Assembly-MSC valve
32 52018 56123 56123 52018 56123 56123 Burner oven	32			52018	56123	56123	52018	56123	56123	Burner oven
N/S 51060 51060 51060 51061 51061 51061 KIT - Door Sool	N/9			51060	51060	51060	51061	51061	51061	KIT - Door Seal
N/S 51071 51071 51071 51071 51071 51071 51071 51071 KIT-Dacigner Acc	N/9		51071	51071	51071	51071	51071	51071	51071	KIT-Designer Acc
N/S 51067 51068 51068 51068 51068 51068 51068 KIT - Gas Tube Kit	N/9		010/1	51067	51068	51067	51068	51069	51068	KIT - Gas Tuho Kit
N/S 561500 56150 56150 56150 56150 56150 56150 56150 56050 56050 56050 56050 56050 56050 56050 56050 56050 56050 560500000000	N/S	56150	56150	56150	56150	50005	56150	56150	50005	Grate Clin (2)
N/S 53008 53008 53008 53008 53008 53008 53008 53008 53008 53008 53008	N/S	53008	53008	53008	53008	53008	53008	53008	53008	Grate Boots
N/S 51128 51127 51128 51127 ♦Knoh Kits	N/S	51129		51128	51127		51128	51127		◆Knob Kits

RT REFERENCE JANUARY 2007	R-1730	R-1735	R-1736	R-2136	R-2140	R-2145	C-30	C-35	C-36	C-40	C-45
AGrates											
51007 Tension	×				X		X			X	
53006 Top, single		X						X			
53007 Designer, Dual ೫		ж			ж	ж		ж		ж	Ħ
53050 Top (2)	No	longei	r availa	ble (u	e 5627	'1)					
56271 Hi BTU one piece (1) 2 hole			X	X					X		
ash Tubes											
51089 Top Lighter Kit	No	longei	r availa	ble							
51216 Flash Tube (long) Piezo 🔹	*	*			*	*	*	*		*	*
51245 Flash Tube ❖			*	*					*		
51088 Top Lighter Kit	No	longei	r availa	ble							
51089 Top Lighter Kit	No	lonaei	r availa	ble							
Irner		- J -									
51235 Burner. RIGHT REAR	No	lonaei	r availa	ble							
51243 Burner, RIGHT REAR	No	longei	r availa	ble							
53070 Burner. RIGHT REAR	No	lonaei	r availa	ble							
51233 Burner, RIGHT FRONT	No	Ionaei	r availa	ble							
51241 Burner BIGHT FRONT	Nr	Ionaei	r availa	hle							
51233 Burner CENTER FRONT	No	Iongei	r availa	hle							
51234 Burner LEET REAR	No	Iongei	r availa	hle							
51242 Burner LEFT REAR	No	Ionne	r availa	hle							
53068 Burner LEET REAR	No	Iongei	r availa	hle							
51232 Burner LEFT FRONT	No	Ionge	r availa	hle A							
	No	Innnei	availa	hlo							+
51246 Burner CENTER FRONT	No	Iongei	r availa	hle							
53069 Burner CENTER (high output)		longer	avana ¥	V							
53009 Durner, CENTER (High Output)	مە	ھ	• •	• •	مە	<u>م</u> ه					
J2UIO DUIIIEI, UVEN æ			<u></u>	ж	<u></u>						
F SHUTTER E1200 Air Chutter E1062 Dresoure Degule	tor Kit v	~	~	~	~	~		~	v		- v
SIZUO AII SIIULLEI SIUOZ PIESSUIE REGUIA		^	^	^	^	^		^	^		^
E212E 2 human manifold	Na	longo		hla							
52125 3 DUITIET ITIAIIIIOIU	NC	longo	availa	blo							
52120 3 burner manifold, silver square P.S.		longo	availa	blo							
53049 5 burner manifold, sliver square D.S.	NC	longo	availa								
52264 4 burner mannoid, black square R.S.	NC	longer	avalla	nie							
	No	longo	availa	hlo							
52123 valve		longo	availa availa	hlo							+
	NU.	longer	avalla	nic							-
51066 Top Dilot Valvo Kit		*				*		*		*	
52282 Top Lighter 🐟						•		•		•	- ···
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Wedgewood - Range & Cooktops PART REFERENCE JANUARY 2007 Safety Valve	R-1730	R-1735	R-1736	R-2136	R-2140	R-2145	C-30	C-35	C-36	C-40	C-45
51063 Safety Valve Kit	NOI	onger a	vallable)							
511/7 Safety Valve	NO I	onger a	vailable	;							
High Output Spark Igniter Assembly											
53078 High Output Spark Igniter Assembly	NO I	onger a	vailable	;							
Piezo 52279 Piezo Push Button ◆		*	*	*		*	*	*		*	*
Thermostat											
51095 Oven control (fits black square manifold)	No l	onger a	vailable)							
52122 Oven control (fits grey manifold)	No I	onger a	wailable)							
Trim											
53021 Left Hand, top & side - black	No l	onger a	wailable)							
53023 Left Hand, top & side - black	No l	onger a	wailable)							
53523 Left Hand, top & side - black	No l	onger a	vailable)							
53022 Right Hand, top & side - black	No l	onger a	wailable)							
53024 Right Hand, top & side - black	No l	onger a	vailable)							
53524 Right Hand, top & side	No I	onger a	vailable	;							
53025 Vent, black 🔹	*	*		*	*	*					
53525 Vent, black 🔄			*								
53526 Bottom, black - ₩	ж	ж	ж	ж	ж	ж					
53668 Bottom	No l	onger a	vailable)							
Manifold Cover											
53072 Manifold Cover, black	No l	onger a	wailable)							
53553 Manifold Cover, black	No I	onger a	vailable	;							
53556 Manifold Cover, black	No l	onger a	vailable)							
Burner Box											
51684 Burner Box 🔹	*	*	*	*	*	*					
51685 Burner Box 🔹									*	*	*
Oven Rack											
51069 Oven Rack Shelf	×	×	×	×	×	×					
51657 Oven Bottom	No I	onger a	vailable)							
Pilot Assembly											
51065 Oven 🔸	*	*	*	*	*	*					
52242 Oven	No l	onger a	vailable)							
Knobs											
51056 Burner - package of 2	X	X	X	X	X	X		X	X	X	X
51057 Thermostat Knob ↔	*	*	*	*	*	*					
Kits											
51076 3-Burner Igniter Kit	No l	onger a	vailable)							
51077 4-Burner Igniter Kit	No l	onger a	vailable	•							
51067 Gas Tube Kit - 17"	X	×									
51068 Gas Tube Kit - 21"					X	X					
Grate Boots & Clips											
53160 Grate Boots & Clips 🔹			*	*					*		

*NLA - No longer available

₩ While supplies last

-	R-173	R-1735	R-1736	R-2136	R-2140	R-2145	C-30	C-35	C-36	C-40	C-45
Door & Door Parts											
51112 Handle, solid doors	N	o longe	r availa	ble							
53087 Handle, black glass doors	N	o longe	r availa	ble							
53605 Enamel door liner w/window	N	o longe	r availa	ble							
53611 Enamel door liner w/window	N	o longe	r availa	ble							
53612 Enamel door liner	N	o longe	r availa	ble							
53655 Solid door handle	N	o longe	r availa	ble							
53663 Solid door handle	N	o longe	r availa	ble							
53425 Insert, black glass 🔹	*	*	*								
53426 Insert, black glass 🔹				*	*	*					
53445 Insert black glass w/window	N	o longe	r availa	ble							<u> </u>
53446 Insert black glass w/window	N	o longe	r availa	ble							<u> </u>
51421 Window, inner assembly *			*	*	*	*					<u> </u>
51060 Door seal, sides	×	X	X								L
51061 Door seal, sides				X	X	X					
Range Tops											
*53582 Iop - ALMOND	N	o longe	r availa	ble							
*53583 Top - BLACK 2 hole	×		X	X					X		
*53584 Top - white 2 hole	×		X	X					X		
* When replacing top you must also replace g	ate.										
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	_										<u> </u>
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DV 20

DV 30



ITEM	DESCRIPTION	DV20	DV30
1	Round Grate	56378	56378 (2)
2	Oval Grate	56379	56379
3	Burner Knob	56380 (2)	56380 (3)
4	Label	56388	56491
5	Тор - wніте	57118	57115
	Тор - всаск	57119	57116
	Top - STAINLESS STEEL	57099	57102
6	Right Burner	56385	56483
7	Left Front Burner	56384	56482
8	Left Rear Burner	NA	56481
9	Manifold Pipe	56383	56478
10	Regulator	51062	51062
11	Valve 7200 Btu/h	56468	56468
12	Valve 5200 Btu/h	56469	56469 (2)
13	Screw-Valve	56480 (2)	56480 (3)
14	Valve Bracket	56479 (2)	56479)3)
15	Screw-Burner	51325 (4)	51325 (5)
16	Screw-Top	56377 (2)	56377 (2)
17	Nylon Washer	52434 (2)	52434 (2)
18	Burner Box	56498	56476
19	Inlet Pipe Grommet	92610	92610
20	Gasket, Valve	56366 (2)	56366 (3)





ATWOOD DROP-IN'S

Effective: 2/24/97



ATWOOD DROP-IN'S

Effective: 8/29/00



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(20)

(28)

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(25)

(29)



DAS-30 / DAS 32E

Drop PAR J/	-in Cooktops TREFERENCE ANUARY 2007	D-21 / D-26	D-26SV	D-26SG	D-31 / D-36	DA-20	DA-21	0E-AQ	DA-31	DA-31PE	DAS-20 / DAS-20E	DAS-30	DAS-32E
ltem	Burner												
19	56073 Burner, LEFT	X		X									
19	56075 Burner, LEFT		X										
19	56212 Burner, LEFT					×	×						
32a	56302 Burner, LEFT (VALVE/TUBE ASSEMBLY) OBS #										X		
20	56074 Burner, RIGHT	×		×									
20	560/6 Burner, RIGHT		×				~						
20	50213 BUTTIEL, RIGHT					×	×				~		
32B	56092 Durner, RIGHT (VALVE/TUBE ASSEMBLY) OBS #										^		
21	56215 Burner LEFT REAR				^			v	v				
21	56234 Burner LEET DEAD									¥			
21	56304 BUINER, LEFT NEAR									r	×		
22A	56214 Burner LEFT FRONT							x	×		^		
22	56082 Burner LEFT FRONT				×			~					
22	56235 Burner LEFT FRONT				, ,					X			
31	56305 Burner LEFT OBS #										x		
23	56084 Burner, BIGHT BEAB				x						••		
23	56216 Burner, RIGHT REAR							X	X				
23	56233 Burner, RIGHT REAR							•	•	X			
31	56306 Burner, RIGHT REAR (VALVE/TUBE ASSEMBLY)										x		
31	56307 Burner, SEALED (PLAIN)										X	X	X
31	56208 Burner, SEALED (BLACK)										X	X	X
31	56207 Burner, ELECTRONIC IGNITION (PLAIN)										X	X	X
31	56325 Burner, ELECTRONIC IGNITION (BLACK) OBS	USE 56	207								X	X	X
	Control Panel Label												
17	52539 Black label	X											
17	52437 Black label		X										
17	51454 Black label			X									
17	52540 Black label				×								
17	56346 Black label					X							
17	57700 Black label						×						
17	56347 Black label							X					
17	5/U51 Black label (Before S.N. B0220)								×				
17	5312b Black label (After S.N. B0200)								×				
17	5/100 Black label (After C.N. B0200)									×			
17	33120 Black label (After S.N. BU2UU)									*	~		
1/	56251 Diack label 56240 White label										×	v	
1/	50551 Black label											^	~
17	STUSZ DIACK IADEI												^
	56204 Cover OBS			x									
	56205 Frame			x									
13	51443 Cooktop & Cover Ashly OBS			x									
	Electronic Ignition			<u>,</u> .								<u> </u>	
35	56162 12V Ignition Module									X	X		X
36	56184 Ground Lead									X			X
36	56165 Electrode Lead									X	X		X
	Fitting, Brass												
24	52294 Fitting, Brass	X	X	X	X	×	X	X	X	X	X	X	X
2,5	51007 Medallion Grate	2)			3)								

OBS - Obsolete [#]While

₩ While supplies last

Drop PAR J/	-in Cooktops TREFERENCE ANUARY 2007	D-21 / D-26	D-26SV	D-26SG	D-31 / D-36	DA-20	DA-21	DA-30	DA-31	DA-31PE	DAS-20 / DAS-20E	DAS-30	DAS-32E
ltem	Grates												
<u>,</u> 2	53304 Designer Grate	X	X	X									
3	53303 Designer Grate, Rear				X								
4	53302 Designer Grate, Front				X	~	~						
6	53430 Stamped Steel Grate					*	×	~		v			
/	53437 Stamped Steel Grate, Rear OPEN							×		×			
8	53436 Stamped Steel Grate, FIOIL OPEN							~	^	^	~		
0	53443 Stamped Steel Grate Bear SEALED	OBS									^	×	×
2 8	53441 Stamped Steel Grate Front SEALED	OBS										~ X	×
0	Grate Boots & Clins	000										~	
10	53301 Grate Clips	(2)	(2)	(2)	(4)								
	51410 Grate Top Clip N/S	. ,	. ,	. ,	. ,					(4)	(2)	(4)	(4)
	53008 Grate Boot	(4)	(4)	(4)	(8)						. ,	. ,	
	Knobs	. ,			. ,								
15	53000 Burner Knob	(2)	(2)	(2)	(3)								
15	56129 Burner Knob					(2)	(2)	(3)	(3)	(3)	(2)	(3)	(3)
	Manifold												
18	52523 Manifold Cover	X		X					×	X			
18	52524 Manifold Cover OBS				X								
18	52510 Manifold Dine, and W	~	~	~		v	×				~		
28	50160 Manifold Pipe OBS #	~	^	×		^	^	v	~	v	^	~	~
28								^	^	^		^	
	52016 Thumh screw					x	X	X	x			X	
	52537 Thumb screw	X	X	X	X			••					
	52434 Nylon Washer (2)	X	X	X	X	X	X	X	X			X	
	Pressure Regulator								-				
25	51062 Pressure Regulator	X	X	X	X	X	X	X	X	X	X	X	X
	Top, Cook												
	Almond top Order by Color NLA												
13	Black top order by color												
13	White top ORDER BY COLOR												
	53124 6500 Linear Valve after SNA B020									(1)			
	53114 5200 Linear Valve after SN B020									(1)			
27	56090 Valve, Burner-6500 BTU	(2)	(2)		(1)		(2)		(1	(1)			
27	56300 Valve, Burner-6500 вто	(-/	(-)	(2)	(•)	(2)	(-)	(1)		(•)			
27	56089 Valve, Burner-5200 BTU			(2)	(2)	(-)		(-)	(2)	(2)			
27	56301 Valve, Burner-5200 BTU			. ,	()			(2)	()	()			
36	56145 Valve Ignition Switch							. ,		(3)	(2)		
36	57055 Valve Ignition Switch												(3)
	Valve thu Bolt												
29	56091 Valve thru Bolt	(2)	(2)	(2)	(3)	(2)	(2)	(3)	(3)	(3)	(2)	(3)	(3)
	Wire Harness												
	56164 Wire Harness									X	X		×
00	Valve lube Assembly										~		
32A	50302 LUL UBS あ 56303 Right ope 99												
32B	56305 Left front ope 99											¥	
33A 33P	56304 eft rear ORS 92											r X	
330	56306 Right rear ORS #											x	
334	56309 Left front											~	x
33R	56308 Left rear												X
	OBS - Obsolete While supplies last												

*hydro flame*TM **Furnace Table of Contents**

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Recommended Tools and Equipment

U-Tube Manometer - This is the most accurate device for measuring gas pressure. If you use a dial-type manometer, it should be calibrated periodically with this type of manometer.

Slack Tube Manometer - A more portable U-Tube Manometer.

Multi-meter - This is the most effective meter capable of reading voltage, amperage and continuity. A test light cannot give you specific enough information to trouble-shoot a furnace properly.



VOLT OHM-AMP METER



Circuit Board Tester - P/N 32779 - This is a table top device that will test all furnace circuit boards. It will specifically test the following board functions: power, spark, lamp, sense and valve. It will test Fenwal and Channel circuit boards.



Air Speed Indicator - This hand held device will let you determine air flow out of a heat register. It will help you isolate restricted ducting.

Incline Manometer - This meter measures the static pressure of the furnace cavity. It provides an x-ray of the total heating system. It will indicate if all of the heat being produced by the furnace is being sufficiently distributed out to the heat registers.

Long-handled Allen Wrenches (9/64" and 1/8") - These two wrenches are necessary to remove the blower wheel and the combustion wheel.

Common Hand Tools - 1/4" nut drivers, open end wrenches, flat blade and Phillips screw drivers.

Leak Test Solution - A solution that bubbles when applied to gas fittings or connections showing where a gas leak is present.

79 / 80 Series Model Identification



Applications - This unit is typically installed in tent campers, truck campers and small travel trailers due to its small size and lower BTU capacities. It is sometimes used in larger trailers or motor homes for smaller zone heating.

Heat Outlets - This furnace is usually set up as a front discharge unit. However, it does have a 4" duct outlet on either side of its casing for soft ducting to remote outlets. To determine the most efficient ducting configuration, refer to **Minimum Ducting Configuration**.

Directional Air Box Insert - If you need to direct heat to the front or rear of a camper and you cannot use soft ducting and registers, an optional diverter plate with 55 degree louvers can be added to the front exhaust box.

Serviceability - Practically all of the components of this furnace are accessible by removing the front grille. Therefore, the furnace does not need to be removed for most repairs. The only components that are not accessible without removing the furnace are the blower motor, sail switch and blower and combustion wheels.

Power Consumption - The 79 series furnace draws only 3.4 amps. However, there is an 8012 series furnace that has a heating capacity of 12,000 BTU's and only draws 1.8 amps. This furnace is ideal for dry camping.

MINIMUM DUCTING CONFIGURATION

7912-II 7916-II 7920-II - **SIDE DISCHARGE UNITS** - Provides the most air flow and heat to remote heat outlets. The duct runs need to be as short and straight as possible for optimal heating.

7912-II 7916-II 7920-II - SIDE DISCHARGE UNITS - with front discharge-

The majority of the heat discharges out the front. A minimal amount of heat will pass through the side ducts. These duct runs need to be as short as possible. An optional air diverter with 55° angle vanes can be added to front discharge opening to direct heat fore or aft in the trailer.

8012-II 7912-II 7916-II 7920-II - FRONT DISCHARGE UNITS - no ducts allowed on 8012-II

The heat discharges only through the front. The optional air diverter noted above can be added to front discharge opening to direct heat for or aft in the trailer.

RETURN AIR REQUIREMENTS

Return air is provided through the front door grill - approximately 33 square inches (213cm²). If the furnace is installed at zero clearance, an additional 16 square inches (103cm²) of return air must be provided to the blower wheel side of the furnace.









79-II Directional Air Box Insert (PN 36959)

An air discharge diverter is now available for all 79 series furnaces. This insert has fins that are set at a 55 degree angle. This will allow you to direct the heat fore or aft in the camper easier.

- 1. Remove the front grill of the furnace.
- 2. Follow the shutdown procedure instructions affixed to the furnace.
- 3. Remove the sheet metal screw that holds the circuit board plate to the air box. Retain to fasten the Air Box Insert to the bottom of the air box.



 Install the Air Box Insert into the air box paying particular attention to the direction where you would like the warm air diverted. Make sure the two holes in the Air Box Insert line up with the existing holes in the air box.



5. Fasten the Air Box Insert to the top of the air box using a 1/4" long #6 sheet metal screw. Fasten the bottom of the Air Box Insert and the circuit board plate to the bottom of the air box using the screw removed in step 3.



- 6. Follow the lighting instructions to place the furnace in operation.
- 7. Replace the front grill on the furnace.



85 Series Model Identification



NOTE: The new 85-IV series furnace, through some design changes is quieter than the previous 85 series. It incorporates some plastic components in the blower housing area to accomplish this. These components are not retro-fittable to other 85 series furnaces.

Applications - This unit is typically installed in travel trailers, 5th wheels and motor homes.

Installation - This series of furnace can be installed either vertically or horizontally. If installed vertically, the exhaust port must be located at the bottom. Extra care must also be given in sealing this type of installation. Consult the installation manual for details.

Heat Outlets - This furnace can be bottom discharged to a hard duct system, soft ducted out the back to a discharge plate into a hard duct system or completely soft ducted from a combination of the seven outlets located on both sides and back of the furnace. Refer to the installation manual for the ducting requirements of the specific model of furnace.

Serviceability - This entire furnace is serviceable without removing it from the RV. Therefore, there is no need to bench test it. All components are accessible by merely opening the access door. We strongly recommend trouble-shooting the furnace while it is installed in the RV.

Power Consumption - This furnace is designed to draw between 4.6 and 9.8 amps depending on the model of the furnace. Refer to the furnace specification decal when trouble-shooting its electrical system.

89 Series Model Identification

	89	35		LP	6
Model		Î	Î	Î	Î
BTU/Hr Rate (Input)					
35 = 35,000					
40 - 40,000					
Voltage					
DC = direct current 12 Volts					
AC = 120 Volts(120 VAC)					
Type Gas					
LP = Propane					
LC = set at factory for propane	but fiel	d			
changeable to natural					
NC = set at factory for natural b	out field				
changeable to propane					
Gas connection size					
6 = 3/8" Flare					

Applications - This unit is typically installed in large travel trailers, 5th wheels, motor homes and park model trailers.

Installation - The 89 series furnace must only be installed horizontally.

Options - As the chart above indicates, this furnace can be purchased to operate on 12VDC or 120VAC with LP gas or Natural gas. Natural gas option is only available on AC models.

Heat Outlets - This furnace can be bottom discharged to a hard duct system, soft ducted into a hard duct system or completely soft ducted from a combination of the six outlets located on both sides and back of the furnace. Refer to the installation manual for the ducting requirements of the specific model of furnace.

Serviceability - This entire furnace is serviceable without removing it from the RV. All components are accessible by merely opening the access door. We strongly recommend trouble-shooting the furnace while it is installed in the RV.

Power Consumption - The DC version of this furnace is designed to draw approximately 12.5 amps. This is important when trouble-shooting the motor of this furnace.

23 34 DC LP 6 BP MODEL DESCRIPTION Model BTU/Hr Rate (Input) Low 23 = 23,000 High 34 = 34,000Voltage — DC = direct current 12 Volts Type Gas — LP = PropaneGas connection size -6 = 3/8" Flare 8 = 1/2" Flare Packing — SP = Single Pack BP = Bulk Pack (layers of 4)

2-stage Model Identification

Wiring Diagram for 7900-II / 8000-II

IMPORTANT

If any original wire has to be replaced, it must be replaced with type 105° C or its equivalent.

With Blower Control Ignition Board



NOTE: The ON/OFF switch, located in line with the gas valve, is not used when a combination circuit breaker and ON/OFF switch is used.

REMOTE Sense Wiring





NOTE: The ON/OFF switch, located in line with the gas valve, is not used when a combination circuit breaker and ON/OFF switch is used.

LOCAL Sense Wiring

Wiring Diagram ACCS Atwood Comfort Control System





85 Series Wiring Diagrams



WITH DOOR and Blower Control Ignition Board





NOTE: In some installations, the Power Switch (PS) may control the air conditioning system thermostat function.





LADDER DIAGRAM



85-III Local Sense



TOC

∎∎

85 Series Wiring Diagrams







Wiring Diagram for 8900-III

DC Wiring Diagram WITHOUT DOOR	IMPORTANT: If any original wire has to be replaced, it must be replaced with type 105 C or its equivalent.
ELECTRODE VELLOW VELLOW VELLOW VELLOW VELLOW SWITCH	VELLOW BLUE BLUE BLUE BLUE BLUE BLUE BLUE BLUE
HIGH TEN	ISION

ON/OFF

PWR BLO

Q

IGNITION BOARD

MOTOR

εD

BLUE

CIRCUIT BREAKER

6 6

+THERMO THERMO

THERMOSTAT

0

DIAGNOSTIC CHART

FAULT	LED INDICATION
Internal Circuit Board Failure	Steady on, no flashing
Limit switch/Airflow problems	1 flash with 3-second pause
Flame Sense Fault	2 flashes with 3-second pause
Ignition Lockout Fault	3 flashes with 3-second pause

DC Wiring Diagram



IMPORTANT: If any original wire has to be replaced, it must be replaced with type 105 C or its equivalent. Terminal Block on 85 Models only.

AC Wiring Diagram WITH DOOR





HIGH TENSION

DC Wiring Diagram

DC Wiring Diagram

0

GROUND

i di li

SAIL SWITCH

WHITE

HIGH TENS

RED

YELLOW

WITH DOOR

ELECTRODE



Wiring Diagram for 2-Stage Furnace

DIAGNOSTIC CHART

A diagnostic LED is located inside the exterior access cover on the outside edge of the horizontal (2) stage control board. The following graph defines the codes.

> An Excalibur 2-Stage furnace must use an Atwood Digital Thermostat.

Two Stage Furnace Models 1522 & 2334

WITH DOOR AND WITHOUT DOOR

2-Stage Furnace Diagnostics							
NUMBER OF LED FLASHES	DIAGNOSTIC INFORMATION	LOCKOUT					
1	Low Input voltage	SOFT					
2	Ignition Failure	SOFT					
3	Open High Limit	SOFT					
4	Stuck Sail Switch	HARD					
5	Module Fault	HARD					

NOTE: A SOFT lockout is a condition that is timed and will make additional attempts to correct the problem. A HARD lockout requires reset of the thermostat or turning the power switch off then back on.

MOT = Blower Motor

PS/CB = Power Switch/Circuit Breaker

SS = Sail Switch

LS = Limit Switch



Two Stage Furnace Model 2540

WITH DOOR AND WITHOUT DOOR

MOT = Blower Motor SS = Sail Switch

LS = Limit Switch

PS = Power Switch

- CB = Circuit Breaker GND = Ground GV = Gas Valve HV = High Voltage
- EL = Electrode

NOTE: The Power Switch (PS) does not control the air conditioning system

control the air conditioning system thermostat function. thermostat function. Thermosta Thermost Red HV Red Dua Dual MO-ЛОТ Cont Ignition Geen Cont Ignition 紒 梌 Geen Control 50N-12 ontro Blue Blue PS/CF 50N-12 3 ξ R e d 彳 C.B Î Ш TT Red_ 123456 Red Red. $\overline{0}$ Orange Orange White White Blue Blu Yellow White Wh Red Red Brown ₽°≫ 5 \sim \sim -0 \sim SS SS LS LS +12 Low VDC VDC Low Valve Blue Case Blue Main Valve Ţ**×** Ţ. Ā Bulk Green Green ~ <u>~</u> nead Main Redundant Redundan Yellow Yellow -12 Valve GV Valve VDC VDC Valve Valve <u>↑</u> ↑ ↑ ↑ GND 徐徐介gnd ≙ GV

GND = Ground

GV = Gas Valve

EL = Electrode

HV = High Voltage

NOTE: The Power Switch (PS) does not

■■

ξ

Î

Ār Ār

Main

Valve Valve

GV

Redundant

Yellov

Red

Sequence of Operation - DC Models

The ON/OFF switch allows power to pass to the circuit breaker and the thermostat.

The thermostat controls the operating circuit to the furnace by reacting to room temperature. When room temperature is below the thermostat set point, the contact closes to allow current to flow to the circuit board.

The circuit breaker limits amperage draw of motor.

The relay on the circuit board allows current to pass to the motor by closing a switch within the relay. The 12v+ signal from the thermostat actuates the relay circuit. The motor will start the blower running immediately.

t

Current flows to the motor to operate the blower. One end of the motor shaft is for the circulating air wheel and the other side is for the combustion air wheel.

Ł

Circulating air blows against the sail switch and closes the contacts, completing the circuit. The sail switch is a safety device that insures air flow before ignition.

t

The limit switch is a safety device that protects the furnace from over heating. The contacts in the limit switch open at a given temperature setting, shutting off power to the electronic ignition system that controls the gas valve.

Ŷ

As power is applied to the circuit board, the system does the following:

- 1. A timing circuit allows the blower to purge the chamber (15-17 seconds)
- 2. The board supplies current to the gas valve and causes it to open. A manual electrical switch is provided and must be in the "ON" position for current to reach the valve.
- 3. As the valve opens, the board sends a high voltage spark to the electrode at the burner. The board detects the presence of a flame. If the flame is not sensed after approximately six seconds, the board will lock out (three try for ignition, one hour lockout and then three retry), shutting off power to the valve.
- 4. If the system does not ignite and the thermostat remains closed after three tries the blower will shut off.

When the thermostat senses the desired room air temperature, the contacts open, removing power from the ignition system and shutting off the gas valve. The blower runs until the heater in the relay cools and opens the circuit, shutting off current to the motor.

A WARNING FURNACE PRODUCES HIGH TEMPERATURE

 Locate furnace out of traffic and away from furniture and draperies.

- Do not touch or put combustibles near appliance. Hot surface temperature may occur.
- Supervise young children in the same room as the furnace.
- Do not place clothing or flammable materials on or near the furnace.



Sequence of Operation - DC Models (Standard One-Stage)

The ON/OFF switch allows power to pass to the circuit breaker and the thermostat.

 $\mathbf{1}$

The thermostat controls the operating circuit to the furnace by reacting to room temperature. When room temperature is below the thermostat set point, the contact closes to allow current to flow to the relay.

The circuit breaker limits amperage draw of motor. \checkmark

The relay allows current to pass to the motor by closing a switch within the relay. Voltage from the thermostat activates the relay to turn the fan on. This takes 1-25 seconds. The Relay is now part of the Ignition Board on all DC products.

r

Current flows to the motor to operate the blower. One end of the motor shaft is for the circulating air wheel and the other side is for the combustion air wheel.

Ť

Circulating air blows against the sail switch and closes the contacts, completing the circuit. The sail switch is a safety device that insures air flow before ignition.

Ť

The limit switch is a safety device that protects the furnace from over heating. The contacts in the limit switch open at a given temperature setting, shutting off power to the electronic ignition system that controls the gas valve.

1

As power is applied to the circuit board, the system does the following:

- 1. A timing circuit allows the blower to purge the chamber (15-17 seconds)
- 2. The board supplies current to the gas valve and causes it to open.
- 3. As the valve opens, the board sends a high voltage spark to the electrode at the burner. The board detects the presence of a flame. If the flame is not sensed after approximately six seconds, the board will lock out (three try for ignition, one hour lockout and then three retry), shutting off power to the valve.
- 4. If the system does not ignite and the thermostat remains closed, the blower will remain on until the thermostat is reset manually.

 $\mathbf{1}$

When the thermostat senses the desired room air temperature, the contacts open, removing power from the ignition system and shutting off the gas valve. The blower runs until the relay opens the circuit, shutting off current to the motor.

A WARNING FURNACE PRODUCES HIGH TEMPERATURE

• Locate furnace out of traffic and away from furniture and draperies.

- Do not touch or put combustibles near appliance. Hot surface temperature may occur.
- Supervise young children in the same room as the furnace.
- Do not place clothing or flammable materials on or near the furnace.



Sequence of Operation Pilot Models

The thermostat controls the operating circuit to the furnace by reacting to room temperature to open and close a set of contact points which allows current to flow to the relay.

The relay receives the current and allows current to pass through to the circuit breaker by closing a switch within the relay. This is done by a heater coil within the relay which actuates a bi-metal disc closing the relay circuit.

The circuit breaker is placed in line to monitor the Amp draw of the motor. It is an overload and safety protector for the motor.

T

The current then flows to the motor and allows the blower to operate. One end of the motor shaft drives the circulating air wheel and the other end of the motor shaft drives the combustion air wheel that delivers the required air to the burner for combustion.

As the circulating air wheel comes up to speed, it blows against the sail switch completing the circuit. The sail switch is placed into the system as a safety to prove there is adequate air for combustion.

The limit switch is an in line safety device which protects the furnace from any over heating conditions. The contacts in the limit switch open at a given temperature setting, shutting off power to the valve.

The next section of operation is controlled by the valve and pilot. Once the power is applied to the valve, the following steps are:

- 1. Set gas valve knob to the pilot setting to light the pilot.
 - a. light pilot.
- 2. Set gas valve knob to the ON position for burner operation.
- 3. While ON stand by, if the pilot goes out and the thermostat closes, the blower will come on, but the valve will remain closed. At this time, the pilot must be relit for burner operation.
- Note: The blower will remain running until the thermostat contact opens.

T

As the thermostat senses the room air temperature, the contacts will open removing power from the valve which will shut off the gas. The blower will remain on until the heater coil within the relay cools and the relay opens and stops the current flow to the motor.



- С-Breaker
- D -Motor
- E -Sail Switch
- Limit
- F -G -
- Gas Valve Η-
 - **Pilot Assembly**



B

Sequence of Operation - AC Models

Operating Circuitry 24 VAC

The transformer receives 120 VAC which it converts to 24 VAC for the operating circuitry.

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The thermostat controls the operating circuit to the furnace by reacting to room temperature. When room temperature is below the thermostat set point, the contacts close to allow current to flow to the relay. The relay receives 24 VAC and energizes a heater coil within the relay. This activates a bimetal disc which closes the relay circuit. This takes 17-20 seconds.

Once the relay circuit is closed, 120 VAC flows to the motor and allows the blower to run. One end of the motor is for the circulating air wheel and the other end is for the combustion air wheel.

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Circulating air blows against the sail switch and closes the contacts, completing the circuit. The sail switch is a safety device that insures air flow before ignition.

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The limit switch is a safety device that protects the furnace from overheating. The contacts in the limit switch open at a given temperature setting, shutting off power to the electronic ignition system that controls the gas valve. $\mathbf{1}$

As power is applied to the electronic ignition circuit board, the system does the following:

- 1. A timing circuit allows the blower to purge the chamber (15-17 seconds.
- 2. The board supplies current to the gas valve and causes it to open. There is an electrical switch in line to the valve to allow power to be manually shut off to the valve. This switch must be on for the furnace to operate. (Switch may be separate or combined with circuit breaker).
- 3. As the valve opens, the board sends a high voltage spark to the electrode at the burner. The board detects the presence of a flame, if the flame is not sensed after seven seconds, the board will lock out, shutting off power to the valve.
- If the system does not ignite and the thermostat remains closed, the blower will remain on until the thermostat is reset manually.

When the thermostat senses the desired room air temperature, the contacts open removing power from the ignition system and shutting off the gas valve. The blower runs until the heater in the relay cools and opens the circuit, shutting off current to the motor.



Sequence of Operation - DC Models 2-Stage Excalibur™ Furnace ONLY

The digital thermostat controls the operating circuit to the furnace by reacting to room temperature. When the room temperature is below the thermostat set point by 2°F a heat demand signal will be sent to the controller module (see MPD 38463).

The ON/OFF switch is an agency safety power shut off to the furnace ignition and gas valve systems.

The circuit breaker limits amperage draw of the motor.

Current flows to the controller module and during the first seconds the micro-processor confirms inputs and verifies correct operation of safety redundancies. This module will perform the following diagnostic checks of the system.

- a. Sail Switch is open
- b. Internal Microprocessor faults
- c. Voltage inputs
- d. Ignition
- e. Öpen Limit Switch

In the event of a failure an LED on the controller module will flash a code. See chart.

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The motor receives current from the controller module and will run at high speed or low speed depending on the demand signal the digital thermostat sends to the controller module. One end of the motor shaft is for the circulating air wheel and the other end is for the combustion air wheel.

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Circulating air blows against the sail switch and closes the contacts, completing the circuit. The sail switch is a safety device that insures air flow before ignition.

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The limit switch is a safety device that protects the furnace from over heating. the contacts in the limit switch open at a given temperature setting, shutting off power. This activates the open limit switch diagnostics and makes the LED on the controller module to flash and shuts down the gas valve. See chart.

As power is applied to the circuit board, the system does the following:

- a. timing circuits allows the blower to purge the heat chamber for 15 seconds.
- b. current is supplied to the gas valve and causes it to open to high burn. (The controller module activates the low burn operation on the valve.)
- c. as the valve opens, the ignition module sends a high voltage spark to the electrode at the burner. The ignition module detects the presence of a flame. If the flame is not sensed after 7 seconds of sparking a signal is sent to the controller module that there is no ignition and shuts off the valve. After another 25 second purge, it will try again. After a third try, the controller will go into "soft" lockout, timing for one hour and the diagnostic LED will flash a code, see chart. After the timed hour, the controller will initiate (3) more tries for ignition. If there is no ignition, the timing sequence begins again.
- d. If the system does not ignite and the thermostat is still calling for a heat demand, the blower will run for 90 seconds as a post purge then shut off.





When the thermostat senses the desired room air temperature, a signal is sent to the controller module to shut down operation of the gas valve and run the blower for 90 seconds as a post purge of heat from the furnace heat chamber.



Annual Preventative Maintenance Inspection

The following preventive maintenance and safety checks should be performed by a qualified RV technician once a year, or more, depending on the use of the furnace. Failure to properly maintain the furnace may void the furnace warranty and can result in unsafe furnace operation. Preventive maintenance is not covered under warranty.

AIR WHEEL - The air wheel should be clean and clear of obstructions. Starting the furnace with something in the blower will damage the wheel, making replacement necessary.

BURNER - The Burner requires no adjustments, but should be inspected annually. Burners should be cleaned with a wire brush to remove debris and corrosion build up.

COMBUSTION CHAMBER - Check the air intake and flue areas of the furnace for internal obstructions, such as wasp or bird nests. The life of the combustion chamber is a function of the amount of time that the furnace has operated. Therefore, it is essential to inspect the chamber for cracks and holes. Have the chamber replaced if it has any cracks or holes - this condition is not field repairable. Chamber should be cleaned if obstructions are present, by removing the chamber and flushing the unit out with water.

CONTROL COMPARTMENT - Clean the control compartment to remove dirt and lint.

DUCTING - The heat ducts should be clean and clear of obstructions. Check for proper duct connection. Any ducts disconnected from the furnace or outlets must be reattached.

GAS PRESSURE - Using a U-tube water manometer, with the furnace and all of the gas appliances operating, the pressure should be 11[°] W.C. (27mbar). Improper gas pressure can cause the furnace to work inconsistently and create unbalanced combustion.

GAS SUPPLY SYSTEM - Perform a pressure-drop test according to current ANSI standards, to insure that there are no gas leaks.

GASKETS - Inspect all gaskets for tight seals. Do not reuse gaskets - always replace with new.

GENERAL - Check that the physical support of the furnace is sound and without sagging, cracks, gaps, etc.

MOTOR - The motor is lubricated and permanently sealed. It requires no oiling. Brushes and armatures are not replaceable.

RETURN AIR - The return air passage should be clean and clear of obstructions and meet the minimum square inches as specified in the installation instructions. Make sure combustibles are not stored in the furnace compartment. Filters are not recommended at these air passages.

VENTING - After checking and clearing, if necessary, the draft cap assembly must have the proper overlap between the exhaust tube and the furnace chamber tube. Any air leakage at these joints may cause improper combustion. Draft cap assembly must overlap no less than 1-1/4" (32mm), and be positioned against the door screen for proper function.

VOLTAGE - Voltage should be between 10.5 and 13.5 VDC at the furnace during operation. The power at the furnace needs to be checked with each of the following power sources when applicable: generator, battery, and converter. Low voltage can cause the furnace to overheat and cycle. High voltage can cause unbalanced combustion, and excessive motor wear. Note: To increase motor life the furnace should be wired directly to the battery.

WIRE CONNECTIONS - Check the furnace for loose or disconnected wires.

A WARNING CRITICAL INSTALLATION CRITERIA

- Do not install the furnace on material that restricts return air, such as carpet, or any soft material, such as vinyl.
- Do not install furnace where clearance to combustibles cannot be maintained.
- Do not modify the furnace in any way.
- Do not alter the furnace for a positive grounding system.
- Do not HI-POT this furnace unless the electronic ignition system (circuit board) has been disconnected.
- Do not use a battery charger to supply power to DC model furnace even when testing.
- Do not use 120 volt AC current with DC models.
- Do not use the furnace cabinet area as a storage compartment.
- Do not vent this furnace with a venting system serving any other appliance.
- Do not vent this furnace to an outside enclosed porch area.
- Do not use for temporary heating of buildings or structures under construction.
- Locate the furnace in an area that will not be blocked by snow.
- Protect building materials from degrading from flue gas exhaust.
- Protect furnace electrical components from water.
- Do not use closeable registers when minimum ducting cannot be maintained.
- Wire furnace direct to battery when possible.
- Use a minimum of 22 gauge wire for the thermostat.
- Use a minimum of 18 gauge wire to the furnace from power supply.
- Follow wiring color code exactly.
- Hold both fittings with a wrench when tightening gas connection.
- Always meet or exceed minimum duct requirements.
- Always meet minimum return air requirements.
- Isolate return air passage from range compartment.

- Installation, repairs and preventative maintenance should be done by a qualified service person only.
- The furnace should be inspected before use and at least annually by a qualified service person.
- Frequent cleaning may be required due to excessive lint from carpeting, bedding material, pet hair, etc. It is imperative that control compartments, burners and circulating air passageways of the furnace be kept clean.
- Label all wires prior to disconnection when servicing. Wiring errors can cause improper and dangerous operation. Verify proper operation after servicing.

CARBON MONOXIDE POISONING

- Furnace must be installed and vented to these instructions.
- Improper installation, adjustment, alteration, service or maintenance can cause injury or property damage.
- Improper installation location may cause furnace to produce negative pressure, affecting combustion air or venting of other appliances.

For assistance or additional information, consult a qualified installer, service agency or gas supplier.





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ENGLISH, FRANCAIS (et Canada)

LITERATURE NUMBER MPD 31492 hydro flame™

Model 1H2C Digital Thermostat

FOR STANDARD FURNACES

& A/C SYSTEMS

Effective 9/21/04

Installation Operation

THIS THERMOSTAT HAS BEEN DESIGNED TO OPERATE STANDARD AIR CONDITIONING UNITS IN CONJUNCTION WITH A RV FURNACE.

SPECIFICATIONS



5 6 7 8 A/C A/C A/C TH FROM COM- HI LOW FURNACE DESCOD EAN EAN

S	SLIDE SWITCH			SCROL	L ORD	ER OF			
LEFT RIGHT			iht	DISPLA	YED N	NODES	UPERATION		
COOL	OFF	HEAT	FAN				Furnace Operation		
		•		HI			Furnace cycles to satisfy set point.		
COOL	OFF	HEAT	FAN				Air Conditioner Operation		
•				AU			Air conditioner automatically switches compressor and high and low speed fan when cycling to satisfy set point.		
•					н		Air conditioner compressor and high speed fan cycle to satisfy set point.		
•						LO	Air conditioner compressor and low speed fan cycle to satisfy set point.		
COOL	OFF	HEAT	FAN				Fan Operation		
			•		HI		Air conditioner fan runs at high speed to circulate air.		
			•			LO	Air conditioner fan runs at low speed to circulate air.		
COOL	OFF	HEAT	FAN				Off		
	•			OF			No operation occurs.		

CERTIN

WIRING REQUIREMENTS FOR ATWOOD THERMOSTAT

12 VDC ANALOG A/C SYSTEMS (RVP®) THERMOSTAT WIRE FROM FURNACE WIRE FROM A/C FUNCTION FUNCTION TERMINAL # (L-R) -12vdc ground not used not used 3 & 4 +12vdc Compressor 5 6 High Fan 7 Low Fan 8 **Furnace Control**





WITH CARE AT ALL TIMES. Locate thermostat 48" to 54" above floor on an INTERIOR wall. Pick a dry area where air circulation is good. EXTERIOR wall location must have a

1 12VDC Ground

THERMOSTAT INSTALLATION

Thermostat is very sensitive. HANDLE

ппп

- area where air circulation is good. $\mbox{\sc extension}$ wall location must have a $3/4^{\prime\prime}$ spacer between thermostat and exterior wall.
- Be sure all electrical power has been disconnected from the air conditioner, furnace and the power supply.
- Do not install the thermostat where there are unusual heating conditions: such as direct sunlight, heat producing appliances (television, radio, wall lamp, etc.) or a furnace or air conditioner supply register.
- 3. ATTACHING THE WALL THERMOSTAT. Separate the thermostat body from the sub-base by gently squeezing the top and bottom, connecting wiring per requirements. Attach thermostat sub-base to the wall at desired mounting location.





LITERATURE NUMBER MPD 31493 hydro flame™

> Model 2H2C Two Stage Furnace Digital Thermostat

ENGLISH, FRANCAIS (et Canada)

Installation
 •Operation
 Effective 9/21/04

FOR TWO STAGE FURNACE

THIS THERMOSTAT HAS BEEN DESIGNED TO OPERATE STANDARD AIR CONDITIONING UNITS IN CONJUNCTION WITH AN EXCALIBUR 2-STAGE FURNACE.



THERMOSTAT INSTALLATION

Thermostat is very sensitive. HANDLE WITH CARE AT ALL TIMES. Locate thermostat 48° to 54° above floor on an INTERIOR wall. Pick a dry area where air circulation is good. EXTERIOR wall location must have a $3/4^{\circ}$ spacer between thermostat and exterior wall.

- 1. Be sure all electrical power has been disconnected from the air conditioner, furnace and the power supply.
- Do not install the thermostat where there are unusual heating conditions: such as direct sunlight, heat producing appliances (television, radio, wall lamp, etc.) or a furnace or air conditioner supply register.
- 3. ATTACHING THE WALL THERMOSTAT. Separate the thermostat body from the sub-base by gently squeezing the top and bottom. Pull wires through access hole in base plate. Attach thermostat sub-base to the wall at the desired mounting location. Mount the sub-base to the wall before connecting the wires.

System Slide Switch		SCROLL ORDER OF							
LE	FT	RIG	IGHT DISPLAYED MODES			UPERATION			
COOL	OFF	HEAT	FAN	Scroll Order of Displayed Modes				Vodes	Furnace Operation
		•		AU					Furnace automatically switches between high and low BTU valve and high and low speed fan when cycling to satisfy set point.
		•			HI				Furnace high BTU valve and high speed furnace fan cycle to satisfy set point.
		•				LO			Furnace low BTU valve and low speed furnace fan cycle to satisfy set point.
		•					HF		Furnace fan runs at high speed to circulate air. Air conditioner fan does not run.
		•						LF	Furnace fan runs at low speed to circulate air. Air conditioner fan does not run.
COOL	OFF	HEAT	FAN	Scroll Order of Displayed Modes			played I	Nodes	Air Conditioner Operation
•				AU					Air conditioner automatically switches compressor and high and low speed fan when cycling to satisfy set point.
•					HI				Air conditioner compressor and high speed fan operate to satisfy set point.
٠						LO			Air conditioner compressor and low speed fan operate to satisfy set point.
•							HF		Air conditioner fan runs at high speed to circulate air. Furnace fan does not run.
•								LF	Air conditioner fan runs at low speed to circulate air. Furnace fan does not run.
COOL	OFF	HEAT	FAN	Scroll Order of Displayed Modes		Nodes	Fan Operation		
			•		HI				Air conditioner fan and furnace fan run at high speed to circulate air.
			•			LO			Air conditioner fan and furnace fan run at low speed to circulate air.
COOL	OFF	HEAT	FAN	Scroll Order of Displayed Modes			layed N	Nodes	Off
	•			OF					No operation occurs.

Specifications

 Operating Voltage
 9VDC to 18VDC

 Power Consumption
 100mA

 Operating Temperature
 -40F to +185F

Mechanical Thermostat - HEAT ONLY

WHAT IS A THERMOSTAT?

- It is an ON/OFF switch controlled by a bi-metal coil which opens and closes an electrical contact by sensing changes in the ambient temperature.
- With its contacts close, it supplies power to the time delay relay which in turn closes a contact that sends power to the blower motor.
- Normally, the thermostat contacts are closed if the blower is running.
- The hydro flame thermostat is equipped with a heat anticipator which allows one to adjust the length of the heating cycles. A furnace should cycle 5-6 times an hour.
 - a. The anticipator is set at 1.0 on all hydro flame thermostats. If you want to shorten the heating cycle, move anticipator to a lower amp setting. You should not set lower than .48 which is the amperage rating of the gas valve. Setting any lower could burn out the anticipator wire.
- Note: Heat anticipator adjustments are not covered under warranty.



Heat/cool thermostats are being used in conjunction with air conditioners and our furnace. The warranty, installation instructions and diagnostic information is provided by the manufacturer of the thermostat. However, if you need to isolate a furnace problem or a dual thermostat problem, bypass the furnace wires at the thermostat. If the furnace ignites and heats, you have a thermostat problem. If the furnace does not run, the problem is in the furnace, and you should consult the trouble shooting guides in the back of this manual.



THERMOSTAT LOCATION

- It should be on an inside wall 48"-54" above the floor on an inside wall.
- It should not be near areas of extreme heat or cold.
- It should not be located directly across from a heat duct.
- If installed on an outside wall, a 3/4" spacer must be used behind legs of thermostat. This will allow the thermostat to sense the air temperature and not the temperature of the wall.
- A minimum of 22 gauge wire should be used to connect the thermostat to the furnace. We recommend 18 gauge stranded wire.





hydro flame Thermostat TROUBLE SHOOTING GUIDE

Effective: 8/10/98

Guides are only intended for use on Atwood[®] products by service technicians who have successfully completed Atwood[®] training. This guide should be used in conjunction with the appropriate Instruction Manual provided with the product and any applicable Industry Standards. This is not intended to be a complete list. Please direct questions concerning service of Atwood[®] products to 866-869-3118 option 5 before proceeding.

CAUSE	SOLUTION
BLOWER DOES NOT RUN	
Temperature selector out of place	Re-set to desired position
Thermostat wires broken or disconnected	Not covered under warranty.
Heat anticipator burned out	Dead short (not covered under warranty). Repair short and then replace thermostat. Faulty relay drawing more than 1 amp. Replace relay and thermostat. Covered
	under warranty.
No continuity through thermostat with	
contacts closed and switch on Continuity through thermostat with	Replace thermostat.
contacts closed and switch on	• Check and reestablish power to thermostat
	Reset tripped circuit breaker.
	Correct poor ground.
	• Correct any loose wires.
	Replace defective relay.
	Replace defective motor.
FURNACE DOES NOT CYCLE PROPER	LY
Furnace cycles too quickly	Move anticipator to a higher amp setting to lengthen cycle. NOT covered under warranty.
	Thermostat located too close to a heat duct. Move thermostat or duct outlet. NOT covered under warranty.
High temperature variance	Move anticipator to a lower amp setting to shorten cycle. NOT covered under warranty.

Note: When the anticipator is set properly and the heating system has operated for a few hours, the furnace should cycle 5-6 time per hour.



Circuit Breaker & Motor



The circuit breaker is actually a re-settable heat sensitive device designed to protect the blower motor. In a furnace, this heat evidences itself in the form of an amp draw. Therefore, since there are different size motors, there are different amperage ratings on circuit breakers. When replacing a breaker, do so with similar amperage rated breaker.

The breakers used on our furnaces are externally mounted and are of a slow blow style. This means that due to their location on our furnaces, the heat of the furnace cannot affect their operation. Likewise, short amperage spikes will not cause them to trip either. The motor will have to produce an excessive and prolonged amperage draw to trip it.

When a circuit breaker trips, it does so because a problem exists. After resetting it, voltage and amperage draws should be taken to determine where the problem is. These readings will determine if you have a power source, breaker or motor problem.

On our 79 and 85 series furnaces we have two different types of breakers. The earlier 79 and 85 models and all 89 models used a rectangular slow blow breaker as pictured. Its sole purpose was to protect the motor. On late model 79 and 85 models we started using a finger-size combination breaker and on/off switch. Code required us to be able to shut the gas off at the appliance when servicing it. This switch accomplishes this by shutting off power to the blower motor, which in turn prevents the gas ignition system from coming on. Current production no longer uses a small rectangular ON/OFF switch combination.

Therefore, it is not only important to use the same amperage rated breaker, but also the same style of breaker.

As stated earlier, there are different size motors as well. They are different because they must be compatible with the various BTU capacities. Each BTU of furnace requires a specific motor RPM in order for proper ignition and combustion to take place.

Since it is very important that the proper motor be used for a specific model of furnace, you must identify if you have the correct motor. To help identify a motor, a 'PF' number is embossed in the metal housing of the motor. If you look at the parts reference in the back of this manual, not only are the proper hydro flame part numbers for the motor needed on a specific furnace noted, but the corresponding 'PF' number is also shown.

A new motor has been introduced into all of the 85 and 89 series DC furnaces. This new motor design is hard-wired. As a result the brushes are longer and should increase motor life considerably. As a result, the motor kit will now contain a motor mount bracket, the motor and installation instructions and will add a little more time to the installation process. However, these are the only motors that will be available as replacements in the field.

Circuit Boards



The circuit board has three functions: create a spark, open the gas valve and lock-out when one of the prior two functions do not occur during the ignition cycle. As long as the circuit board is receiving the minimum micro-amps from the electrode assembly, it will not lock out. It has a 15 second ignition delay as well. This delay allows the furnace to purge any unburned gas in the combustion chamber before ignition occurs.

We have two basic types of circuit boards. The board we currently use is a micro-processor board. It is a three trial ignition board and operates in conjunction with a single or local sense electrode (an electrode that has only one probe that both sparks and senses).

Various versions of the 12VDC analog board have been used. The part numbers of those boards are noted below. Fortunately, the local sense micro-processor board is the only one you will have to stock for replacement on a 12VDC furnace. Plastic spacers will be provided with the board so that it can be mounted on metal surfaces that you may encounter sometimes on various models of our furnace. The only other circuit board that you will have to stock is the AC version.

Fenwal, Relay on board with blower control retrofit kit	
Fenwal, Relay on board (NLA)	
channel, 2-Stage ignition board	
channel, 2-Stage motor control board	

Relay

ALL CURRENT PRODUCTION MODELS USE THE RELAY ON THE CIRCUIT BOARD

This component is commonly referred to as a time delay relay. **The same relay is used on the 7900, 8500 and 8900 series furnaces.**

- FUNCTION The relay has one primary function.
- to purge the plenum of heat and the chamber of any unburned gases after each heating cycle.

OPERATION - The motor voltage path of relay is normally open. There should always be voltage from the circuit breaker to the relay terminal of the circuit breaker. There should always be continuity between the thermostat terminal connection and ground terminal connection or the relay.

Only when the thermostat contacts are closed is voltage supplied to the

Sail Switch -

The sail switch is an air proving device. It is a safety component that will not let ignition occur until it sees 75% of the motor's rpm's. It insures that the combustion wheel is rotating fast enough so that there is a proper air and gas mixture for smooth ignition.

There are different size sail switches. The noticeable difference is the size of the paddle on the switch. Each switch is matched to the size of motor it must respond to.

NOTE: All 85-IV use the same sail switch.

Limit Switch -

thermostat terminal of the relay. This voltage heats a coil in the relay body. In approximately 20 seconds this heated coil causes a bimetal disc to close. Voltage now passes through the relay and on to the motor, which in turn should allow the furnace to ignite and start a heating cycle.

When a heating cycle is complete, the contacts of the thermostat open and voltage ceases to the heater coil of the relay. In approximately 45 - 90 seconds, the heater coil cools down, the bi-metal disc opens and voltage ceases to the motor as well.

AMP Draw - The relay should draw no more than 1 amp. If the relay should draw more than 1 amp, it will burn out the anticipator.





When the paddle of the switch is depressed, there should be continuity through the switch. If a sail switch needs to be replaced, it should be replaced with the exact same size. If a larger switch than the original is used, it will probably not close when the motor reaches 75% of its rpm's and therefore keep ignition from occurring.

The most common problems with these switches are bent paddles, loose wire connections or an obstruction between the paddle and switch contact.



The limit switch is a very important safety device on a furnace. The function of a limit switch is to protect the furnace from overheating. These switches come in a variety of temperature ratings and are located at critical locations above the heat chamber on the various models of furnaces. Therefore, it is very important that when one of these switches is replaced, you do so with the properly rated switch.

79-II, 89-II, 89-III, 2540 Part # 37021 (was 34781) 3/16" / 3/16" terminals



Markings on Switch L77 or L170 (170°F) 85-II, 89-I Part # 35132 1/4″ terminals



L54 (130°F)

Failure to do so could cause an unsafe condition with the heating system. When in doubt as to whether you are using the proper limit switch for a furnace, look at the temperature at the base of the switch and match it to the temperature and related switch noted below.

Part Number 36205 is a thermal cut-off and was a specific safety component used on some 89-II furnaces. It was located above the chamber and tripped in the event of a burn through chamber.

85-III, 85-IV, 1522, 2334 Part # 37022 (was 36176) 1/4" terminals

L190 (190°F)



Dual Solenoid Gas Valve



We use a White Rodgers dual solenoid gas valve on all of our furnaces. The valve requires a minimum of 10.5VDC in order to open and when open, should draw no more than .48 amps.

Later model furnaces have an ON/OFF switch on the wire to the gas valve. This replaces the manual shut-off that was used on earlier model furnaces. You can now electrically shut off the gas to the valve with this switch before servicing the furnace.

When these valves become inoperative, it is typically one or both of the coils that fail. In order to determine which coil is at fault, you need to conduct a continuity test on both leads of each coil. The resistance on a good coil will be 30-50 ohms. If the resistance is not in this range the coil is defective and must be replaced.

The coils on this valve are wired in parallel. Therefore, when replacing the wires on these coils, it is important that they be attached per the diagram. The red 12VDC supply wires must be attached to terminals 1 and 4 and the ground wires must be attached to terminal 2 and 3. If the coils are mistakenly wired in series and there is a marginal supply voltage, there will be a voltage drop from coil to coil and the valve will not open.

Burner Head, Electrode and Valve Assembly





The burner head, electrode and gas valve on the late model 79 series furnace are individually accessible. However, to service these same components on the late model 85 and 89 series, remove the complete assembly.

The different models and/or BTU ranges of furnaces use different burner heads. These burners differ by the size of the top gas port holes or the deflector that runs through the throat of the burner. If the wrong one is used, it may cause an ignition, sooting or flame sense problem.

When an electrode assembly is installed on a furnace, they will already be in a fixed and predetermined position above the burner. The only adjustment that you may need to do is on the sparking and ground electrode points. This gap should be 1/8". However, when the porcelain on an electrode assembly becomes cracked, it will not function properly and will have to be replaced. When doing so, use the proper electrode assembly for the model of furnace being serviced.

There are only two versions of the solenoid valve available for the models of furnaces noted above. These two valves are identical except for the gas inlet porting on them (side or front). As stated earlier in this manual though, the coils are what usually breakdown but they are easily replaceable.

The different models and/or BTU ranges of furnaces use different burner heads. These burners differ by the size of the top gas port holes or the deflector that runs through the throat of the burner. If the wrong one is used, it may cause an ignition, sooting or flame sense problem.


The 4 Always

Remember that you are working on a heating system and not just a furnace. A majority of furnace problems lie outside of the product itself. Therefore, when trouble-shooting a furnace problem, always check the following items before testing or replacing components.

#1 - GAS PRESSURE

The gas pressure should be set at a minimum of 11" W.C. with a minimum of 50% and ideally 100% of the gas fired appliances operating. You should test this pressure with a U-tube Manometer only. If you choose to use a dial-type manometer, calibrate it often with a U-tube manometer.

#2 - VOLTAGE

Voltage to the furnace should be between 10.5 and 13.5 VDC during operation with the interior lights ON and OFF. This check should be made with the battery, converter or generator when applicable. Use a digital or analog multimeter when taking voltage readings. Do not use a test light. It does not provide enough useful information for proper diagnosis.

#3 - DUCTING

Always make sure that the furnace has at least the minimum number of ducts (not including closeable outlets) called out in the installation instructions. Check for proper duct connections at the furnace and heat registers, collapsed ducts and holes in the ducting. The duct runs must be as straight and tight as possible. The heat ducts must also be clean and clear of obstructions.

#4 - RETURN AIR

The return air passage should meet the minimum square inches as specified for the particular model of furnace in the installation instructions. This air passage should also be clean and clear of obstructions. Do not put air filters in this passage way. Also make sure that combustibles are not stored in the furnace compartment.

#1 - Gas Pressure

A furnace is a consumer's friend when the outside temperature gets colder. Unfortunately though, cold is an enemy of LP gas. The BTU capacity of LP per volume decreases as the outside temperature gets colder. Therefore, based on how full the LP tanks are, the ambient temperature outside and how many BTU's the furnace is, there may not be enough gas to sustain ignition on the furnace.

Using the charts below, let's say that a 40,000 BTU furnace won't fire up, and we also know that the 65 lb. LP bottle on the RV is 40% full and it is 0 degrees F. outside. One's first thought might be that the burner or valve is bad. However, if

we use the chart, the vaporization capacity of the tank in these conditions is only 38,500 BTU's. The furnace is not going to perform very well because there is insufficient BTU capacity in the tank.

If you were to put an insulated fire resistant blanket over the tanks and a 75 watt light bulb under that, you would probably raise the temperature of the bottles 10-20 degrees and almost double the BTU capacity of the tank. This in turn would allow the furnace to operate properly. So keep in mind that a furnace problem is not always a component problem.

20 lb. Bottle (*30 lb. bottle multiply X 1.40)									
% Full	+20°	0 °	-5°	-10°	-15°				
60%	36,000	18,000	12,750	8,500	4,250				
50%	32,400	16,200	12,150	8,100	4,050				
40%	28,800	14,400	11,400	7,600	3,800				
30 %	25,200	12,600	10,450	7,300	3,150				
20%	21,600	10,800	8,100	5,400	2,700				
10%	16,200	8,100	6,075	4,050	2,025				
65 lb. Under Mtd. LP Gas Tank BTU available at									
65 lb. Under Mtd. I	LP Gas Tank B	TU available	at						
65 lb. Under Mtd. I % Full	LP Gas Tank B +20°	TU available O°	at -5°	-10°	-15°				
65 lb. Under Mtd. l % Full 60%	L P Gas Tank B + 20° 95,600	TU available 0° 47,800	at - 5° 36,000	-10° 23,900	-15° 12,100				
65 lb. Under Mtd. l % Full 60% 50%	L P Gas Tank B + 20° 95,600 86,000	TU available 0° 47,800 43,000	at - 5° 36,000 32,250	-10° 23,900 21,500	-15° 12,100 11,750				
65 lb. Under Mtd. l % Full 60% 50% 40%	L P Gas Tank B +20° 95,600 86,000 77,000	TU available 0° 47,800 43,000 38,500	at - 5° 36,000 32,250 29,250	-10° 23,900 21,500 19,250	-15° 12,100 11,750 9,625				
65 lb. Under Mtd. l % Full 60% 50% 40% 30%	LP Gas Tank B +20° 95,600 86,000 77,000 68,000	TU available 0° 47,800 43,000 38,500 34,000	at -5° 36,000 32,250 29,250 25,500	-10° 23,900 21,500 19,250 17,000	-15° 12,100 11,750 9,625 8,500				
65 lb. Under Mtd. l % Full 60% 50% 40% 30% 20%	LP Gas Tank B +20° 95,600 86,000 77,000 68,000 58,000	TU available 0° 47,800 43,000 38,500 34,000 29,000	at -5° 36,000 32,250 29,250 25,500 21,750	-10° 23,900 21,500 19,250 17,000 14,500	-15° 12,100 11,750 9,625 8,500 7,250				

#2 - Voltage

See 4 Always previous page.

#3 - Minimum Ducting Requirements

The various BTU sizes of 85, 89 and 2-stage series furnaces require a minimum number of square inches of heat ducting. The most common size of soft ducting is 4" diameter. Therefore, since a 4" duct is equal to 12 square inches, we can call out the minimum number of ducts needed for the models of furnaces noted below.



· each run should be as straight and short as possible

2" Flexible Hose

- · 2 2" duct runs do not equal one 4" duct. A 2" duct is only 3 sq/inches
- 2" duct adapters are available
- · 2" ducts are ideally suited for bathroom and holding tank compartments

Closeable Outlets

• a closeable outlet does not contribute to the minimum of total outlets recommended for a furnace.

Bottom Discharge

- furnace must be completely sealed to floor and plenum with a bottom discharge gasket, with no air gaps.
- if furnace is installed in middle of run, the main duct run must be a minimum of 24 sq/inches.
- if furnace is installed at the end of the run, the main duct must be 48 sq/inches.

#4 - Return Air

This return air requirement can be met in a couple of ways.



- The return air grille mounted on an inside wall of the trailer, exposed to the cabinet area of the furnace is the most common mounting used on the 85, 89 and 2-Stage Series furnaces.
- Another option is to provide openings at various locations in the furnace cabinet area capable of drawing air from inside the trailer (ie. rowtered holes at bases of sofas or walls, etc.).

The total square inches of openings must meet minimum requirements. Do not place any types of air filters in front of or behind the return air door. Blocking this area will substantially decrease the return air causing - less air delivery to the heat registers - short cycle of the furnace - limiting of the furnace.

We recommend electrical air filters that can be placed anywhere in the open living area of the recreation vehicle. They can be purchased in most hardware stores.

Quick Diagnostics For 2 Stage Furnaces

Tools Required: Multimeter All tests performed at Control Board. Wire color codes:

WHITE:

With the ON/OFF Switch turned on, there will always be DC power at the white connection. The thermostat can be turned on or off. If there is no power at this location, check the ON/OFF Switch. If the Switch is in the on position, check to confirm that the Limit Switch is closed. If not, replace the Limit Switch. If the Limit Switch is closed, check to confirm DC coming into red wire into furnace. Correct problem, fuse, or disconnected red wire.

BLACK:

Black wire comes from the Sail Switch. There will be no power at this location unless furnace blower is operating. If the blower is running at least 6 volts and there is no reading on the black connection, replace Sail Switch.

BLUE: 1

Power from the Thermostat. The Thermostat provides power to the furnace as a signal rather than typical, straight DC voltage. With the meter attached to the blue wire, you will see varying voltages displayed, rather than one solid reading like you will see with our standard furnace. If no reading, the Thermostat is probably defective. Before the Thermostat is replaced, check all wiring.

BLUE: 2

Power from Control Board, to the Ignition Board. Reading at the blue 2 is straight DC voltage. There is no reading at this location when the Thermostat is in the fan only mode. When the Thermostat is turned to heat mode, you will see a reading at blue 2. If there is no power on blue 2 when the thermostat is in heat mode, replace the Control Board.

ORANGE:

Ignore

BROWN:

Power from Control Board to third coil on Valve, high heat only. During low heat mode there will be no reading at the brown wire connection. When the mode is changed to high heat there will be a solid voltage reading at this location. If no reading during high heat, replace Control Board.



FURNACE -Electronic Ignition Model **TROUBLE SHOOTING GUIDE**

Effective: 8/10/98

Guides are only intended for use on Atwood® products by service technicians who have successfully completed Atwood® training. This guide should be used in conjunction with the appropriate Instruction Manual provided with the product and any applicable Industry Standards. This is not intended to be a complete list. Please direct questions concerning service of Atwood® products to 866-869-3118 option 5 before proceeding.

CAUSE BURNER FAUS TO IGNITE AND - B	SOLUTION	
No electrical power to the furnace	Beconnect or replace power source *	
Thermostat defective	Replace thermostat	
Thermostat wires broken or shorted	Replace wire or wires*	
Current overload protector device	Reset circuit breaker. Check amp draw from mo	otor
Defective or tripped (circuit breaker)	According to furnace's specifications.	
Blower relay defective	Replace relay	
Wire off motor	Reconnect wire	
Wire off relay	Reconnect wire	
Improper ground	Clean and secure grounds*	
Blower motor defective	Replace motor	
BLOWER RUNS - BUT FAILS TO IGI		
Low Voltage/High Voltage	Correct Power Supply*	
Gas pressure incorrect	Set pressure to a minimum of 11" W.C. with all	appliances running.
	(Replace regulator if not obtainable).*	
Furnace grounding wires not secure	Clean and secure grounds established*	
Air intake restricted	Clean air intake.*	
12 volt polarity reversed	Correct polarity*	
Motor running slow	Check voltage first. If 12 VDC while running, re	place motor.
Exhaust blocked	Clean exhaust.*	
Combustion air wheel loose	Reposition and tighten.	
Sall switch defective or wire off	Reconnect wire or replace.	
Limit switch delective of wire of	Reconnect wire or replace.	
Edge connector on circuit board dirty	Clean plug contacts. If still defective, replace (abaali on board taatar
	when possible)	check on board lester
Gas valve defective	Benlace valve or valve coil depending on probl	em encountered
Main hurner orifice blocked	Clean main hurner orifice or replace	em encountereu.
High tension lead wire defective	Benlace wire	
Flectrode out of adjustment	Adjust electrode (take care not to damage porc	elain).
Electrode defective	Replace	
Obstructed burner head	Clean burner head*	
BURNER IGNITES BUT IGNITION SY	STEM "LOCKS OUT" AND TURNS BURN	ER OFF
low gas pressure	Set pressure to a minimum of 11" W.C. with all	appliances running.
3 p	Replace regulator if not obtainable.*	
Exhaust blocked	Clean exhaust.*	
Combustion air wheel loose	Reposition wheel and tighten	
Electrodes out of adjustment	Adjust electrode according to furnace specification	tions.
Electrode defective	Replace electrode.	
Circuit Board defective	Clean plug contacts. If still defective, replace. (Check on board tester
	when possible).	
Flame sensor wire between electrode	Replace wire	
and circuit board defective		
Air leakage at gaskets	Replace gasket	
Defective heat exchanger	Keplace heat exchanger	
*indica	ites NUT covered under warranty.	continued backside
	29	



FURNACE - ELECTRONIC IGNITION Model (continued) Effective: 8/10/98

CAUSE	SOLUTION
SOOTING (caused by lazy yellow flame)	
Low gas pressure	*Set pressure to a minimum of 11" W.C. with all appliances running. Replace regulator if not obtainable.
Low voltage	Correct power supply*
Air leakage at gaskets	Replace gaskets
Combustion wheel installed backwards or loose	Reposition wheel and tighten.
Blockage in heating chamber or burner head	Clean or replace
Faulty motor	Replace motor Deplace with correct want kit or draft con
	Replace with correct vent kil or drait cap
Defective thermostat	Daplace thermostat
Shorted thermostat leads	*Beolace wire or wires
Defective relay	Benlace relav
LIMITING = BURNER CYCLING ON AND OFF	- BLOWER RUNS CONSTANTLY WITH THERMOSTAT ON
Restricted or insufficient discharge ducting	a. Ducting must meet furnace's minimum requirements.*
	b. No excess ducting or unnecessary bends.*
	c. All closeable registers must be fully open and unrestricted.*
Furnace over fired	Set gas pressure to a minimum of 11" W.C. with all appliances
	running replace regulator, if not obtainable. Also, check main
	burner orifice, it must comply with furnace's specifications.*
Restricted return air supply	Make sure return air meets turnace minimum requirements."
BLUWER SHUIS UFF AI SAME HIME BURNE	
Wired wrong	Correct winnig
	Replace Telay.
Motor mount loose	Tighten motor mounting bracket
	a Ducting must meet furnace's minimum requirements*
	b. No excess ducting or unnecessary bends.*
	c. All closeable registers must be fully open and unrestricted.
Damaged blower wheel	Replace blower wheel.
Motor shaft bent	Replace motor
INSUFFICIENT HEAT	
Furnace under fired	1. Set gas pressure to 11" W.C. with all appliances running,
	replace regulator if not obtainable. Also, check main burner
	oritice, it must comply with furnace's specifications.
	2. Uneck ducting and return air according to turnaces
Furnace improperly sized for coach/or conditions	specifications. Benlace furnace with proper size
i amade impropenty sized for coach/or conditions	הסטומטי ועודומטט שונון פוספט טובס.



INTERNET: http://www.atwoodmobile.com

FURNACE - Pilot Model TROUBLE SHOOTING GUIDE

Effective: 8/10/98

Guides are only intended for use on Atwood[®] products by service technicians who have successfully completed Atwood[®] training. This guide should be used in conjunction with the appropriate Instruction Manual provided with the product and any applicable Industry Standards. This is not intended to be a complete list. Please direct questions concerning service of Atwood[®] products to 866-869-3118 before proceeding.

CAUSE SOLUTION		
BURNER FAILS TO IGNITE AND - BL	OWER FAILS TO RUN	
No electrical power to the furnace	Reconnect or replace power source.*	
Current overload protector device	Reset circuit breaker. Check amp draw from motor defective or	
	tripped (circuit breaker).according to furnace's specifications.	
Thermostat defective	Replace thermostat.	
Thermostat wires broken	Replace wire or wires.	
Thermostat located in high area	Relocate thermostat.	
Blower motor defective	Replace motor.	
Blower relay defective	Replace relay.	
Wire off motor	Reconnect wire.*	
Wire off relay	Reconnect wire.*	
Improper ground	Clean and secure grounds.*	
BLOWER RUNS - BUT FAILS TO IGN	ITE	
Low Voltage/High Voltage	Correct power supply.*	
12 volt polarity reversed	Correct polarity.*	
Furnace grounding wires not secure	Clean and secure grounds established*	
Gas valve defective	Replace valve or valve coil, depending on problem encountered.	
Gas pressure incorrect	*Set pressure to a minimum of 11"W.C. with all appliances running.	
	(Replace regulator if not obtainable).	
Limit switch defective or wire off	Reconnect wire or replace.	
Sail switch defective or wire off	Reconnect wire or replace.	
Burner orifice blocked	Clean main burner orifice or replace.	
Combustion air wheel loose	Reposition and tighten.	
Burner head adjustment	Reposition and tighten. Adjust burner according to furnace	
	specifications.	
Exhaust blocked	Clean exhaust.*	
Air intake restricted	Clean air intake.*	
Broken or loose wire	Replace or tighten*	
Motor running slow	Check voltage first. If 12 VDC while running, replace motor.*	
Pilot orifice plugged	Clean or replace orifice	
Thermocouple defective	Replace thermocouple	
Pilot assembly defective	Replace pilot assembly	
BURNER CYCLING ON AND OFF - BL	OWER RUNS CONTINUOUSLY WITH THERMOSTAT "ON"	
Restricted return air supply	Make sure return air meets furnace's minimum requirements.	
B		

Restricted return air supplyMa	ake sure return air meets turnace's minimum requirements.
Restricted discharge duct systema.	Make sure ducting meets furnace's minimum requirements.*
b.	Make sure there is no excess ducting or unnecessary bends.*
С.	Make sure any closeable registers are fully open and unrestricted.
Defective limit switchRe	place limit switch.*
Furnace over firedSe	t gas pressure to a minimum of 11" WC with all appliances
rur	nning. Replace regulator if not obtainable. Also, check main burner
ori	fice, it must comply with furnace's specifications.

*indicates NOT covered under warranty.

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FURNACE - Pilot Model (continued) Effective: 8/10/98

CAUSE	SOLUTION
BLOWER SHUTS OFF AT SAME TIME BURNEF	R SHUTS OFF
Faulty relay	Replace relay
Thermostat wired wrong	Correct wiring*
BURNER FAILS TO IGNITE AND - BLOWER FA	NILS TO RUN
No electrical power to the furnace	Reconnect or replace power source.*
BLOWER VIBRATES OR IS NOISY	
Damaged blower wheel	Replace blower wheel.
Motor shaft bent	Replace motor
Loose motor	Tighten motor mounting bracket.
Restricted discharge duct system	a. Make sure ducting meets furnace's minimum
requirements.	h. Make sure there is no excess ducting or unnecessary
	hends *
	c. Make sure any closable registers are fully open and
	unrestricted.*
PILOT FAILS TO IGNITE OR STAY LIT	
Plugged pilot orifice	Clean or replace pilot orifice.
Electrode out of adjustment	Adjust electrode to furnace's specifications.
Pilot tube defective	Replace tube.
Piezo sparker defective	Replace sparker
Defective thermocouple	Replace thermocouple.
Defective valve	
Vent Kit not sealed	Seal vent where it meets with the furnace."
Compustion air hose plugged or collapsed	Replace combustion hase
Water in propane	Add alcohol to the propage bottles *
Burner plate gasket or	Replace gaskets
pilot gasket not sealed	
LAZY FLAME (yellow)	
High gas pressure	*Set pressure to a minimum of 11″ W.C. with all appliances
	running. Replace regulator if not obtainable.
Burner out of adjustment	Adjust burner according to furnace specification.
Combustion wheel installed backwards or loose	Reposition wheel and tighten.
Air leakage at gaskets	Replace gaskets
	Correct power supply^
FAN KUNS CUNTINUUUSLY WITH THERMUSTAT	
Shorted thermostat leads	Replace wire or wires.
Defective telay Defective thermostat	Replace thermostat
Furnace under fired	1 Set das pressure to 11"WC, with all appliances running
	replace regulator if not obtainable. Also, check main
	burner orifice, it must comply with furnace's
	specifications.*
	2. Check ducting and return air according to furnaces
specifications.	
Furnace limiting	Check ducting and return air. It must comply with furnace's specifications.*

*indicates NOT covered under warranty.

Furnace Technology

Terminology	Definition	Terminology	Definition
AC Motor	A Motor operating on 120 volts A.C.	Fan Switch	A normally open switch that closes at
Adjustable Register	A heat outlet capable of being opened and closed.		a set temperature allowing power flow to the motor, and allows the motor to run after the burner shuts down to
Air Speed Indicators	(Velometer) A tool used to measure the velocity of air movement from a duct outlet.	Field Flectrical Hook Un	cool down the combustion chamber. The Wiring Harness that connects the furnace to the coach wiring
Ambient Air Temp.	Current room air temperature.	Elair Fitting	Brass fitting used to connect the
Amp Draw	The amount of current required to run a given component		furnace to the gas supply.
Rurn Off	The time it takes for the furnace	Flash Back	A condition when the flame burns on the inside of the burner.
bun on	Combustion Chamber to burn off all the oils and lubes used in production.	Flex Ducting	A round, collapsible, wire reinforced product used to deliver the heated air
Burner	The component in the furnace where combustion occurs creating the main source of heat within the Combustion Chamber.	Forced Combustion	from the furnace to the living area. A type of combustion when a second air wheel is used to force air into the burner to increase the air to gas
Burner Flame Lift Off	When the flame lifts off the Burner.		mixture.
Candling	A small flame at the Main Burner Orifice when the Valve is in a closed position.	Gas Pressure	The amount of gas being supplied to the furnace, measured in column inches.
Circuit Breaker	A normally closed switch that automatically interrupts an electrical circuit under abnormal AMP loads.	Gas Valve	A mechanical device by which the flow of gas is started or stopped by an electrical signal.
Circulating Air	Air drawn into the furnace by the Main Air Wheel then heated and forced out the heat outlets.	Gravity Combustion	A type of combustion using no other source but gravity to supply combustion air for the proper air to gas mixture at the burner
Combustion Air	Air supplied to the Burner specifically for combustion.	Hard Ducting	(See Floor Ducting)
Combustion Chamber	The component where combustion occurs and transfers heat to circulating air.	Heat Anticipator	Component of a Thermostat that can be adjusted to increase or decrease the length of the heating cycle.
Converter	Component that is used to change	Heating Element	(See Combustion Chamber)
	120 VAC to 12 VDC. Available in linear, pharo-resonant and switching styles.	High Tension Lead Wire	The wire carrying the high tension spark from Circuit Board to Electrode.
Cycling	The normal on and off operation of the furnace controlled by the thermostat.	Incline Manometer	Tool used to measure Static Pressure of the furnace plenum.
DC Motor	Motor operating on 12 VDC.	Junction Box	A box inside or outside of the furnace
Circuit Board	A Circuit Board in the furnace		where electrical connections are made.
	proves a flame has been established.	Limit Switch	A normally closed switch that opens at a set temperature which does not
Electrode	Both a conductor establishing an electrical spark at the Burner to ignite the air to gas mixture, and a sensor to signal the circuit board the flame is established.	Limiting	A condition caused by over-heating the Limit Switch The burner turns on and off during a heating cycle.

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Terminology	Definition	Terminology	Definition
Loud Ignition	A condition where the air to gas mixture is off and the burner lights with a loud noise.	Sooting	A black powder that builds up around the Burner in the Combustion Chamber normally caused by an
Main Burner Orifice	The Orifice regulating the amount of gas delivered to the Burner.	Start Capacitor	A device giving an electrical boost to
Manifold	The tube delivering gas from the Gas Valve to the Main Burner Orifice.	Static Pressure	Amount of pressure inside the Furnace
Manual Reset Switch	A Limit Switch manually reset after reaching it's set temperature.		Plenum or Duct caused by the ability to dispel air out the duct outlets.
MicroAmps:	Amps sent back to the Circuit Board to establish a flame is present.	Thermocouple	Safety device used to generate an electrical signal sent to the Gas Valve to hold the Pilot Flame on.
Millivolts	Voltage created by a Thermocouple or Thermopile.	Thermopile	Safety device much like a Thermocouple. It gives a much higher
Multi-Try Circuit Board	Circuit Board providing 2 or 3 trials for ignition.		electrical output, also used to open the Main Valve with a Thermostat.
OEM	A manufacture of recreational vehicle, "Original Equipment Manufacture".	Thermostat	Device used with the Furnace to regulate the room air temperature.
Pig Tail	(see Field Electrical Hook Up)	Time Delay Relay	A normally open Relay. When
Pilot Light Assembly	An assembly used to light the burner.		activated closes, sending power to the Blower Motor. When deactivated
Plenum	The metal box enclosing the Combustion Chamber directing the		allows Blower to run for a period of time to cool the Combustion Chamber.
	heated air to the duct outlets.	Transformer	Device reducing 120 VAC to 24 VAC.
Power Supply	A source of electrical power, usually a converter, inverter or battery.	U-Tube	Tool measuring gas pressure in inches of water.
Primary Air	A portion of the combustion air mixing directly in the Burner at the Main Burner Orifice.	VOM	Meter reading voltages and OHMs resistance.
Resonating	A whining noise created by a Burner with an improper air to gas mixture.	Valve Coil	Electromagnetic Coil on the Gas Valve holding and releasing a plunger to start and stop the flow of gas.
Return Air	Air pulled into the furnace, heated, force through duct outlets back to the living area.		
Safety Lockout	Circuit Board not sensing a flame, cutting power to the Gas Valve.		
Sail Switch	Air prover switch that will engage when the Blower Motor reaches 75% of the rated RPM.		
Secondary Air	Combustion Air that helps complete the combustion after the Burner is on.		
Sensor Wire	Wire carrying an electrical signal from the Electrode back to the Circuit Board on a remote sense system.		
Slope Gauge	(see Incline Manometer)		

MPD 32072



INTERNET: http://www.atwoodmobile.com



hydro flame™

7900-II / 8000-II Series Furnace Technical Installation Manual

ENGLISH, FRANCAIS (et Canada)

Installation

Effective 5/19/06





October 1997





DESIGN CERTIFIED

LITERATURE NUMBER MPD 33179 *hydro flame*™

8500-IV Series Furnace

MODELS 8516, 8520, 8525, 8531, 8535

Technical Installation Manual

•Installation •Maintenance

Effective 4/10/06

ENGLISH, FRANCAIS (et Canada)

17

Valve



Sail Switch

41

LITERATURE NUMBER MPD 31472 *hydro flame*™

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8500-IV-LD Series Furnace

MODELS 8516, 8520, 8525, 8531, 8535

Technical Installation Manual

ENGLISH, FRANCAIS (et Canada)

Installation
 Maintenance
 Effective 0/14/04

Effective 9/14/04



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MODELS 8935, 8940

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Technical Installation Manual

LITERATURE NUMBER MPD 32046

ENGLISH, FRANCAIS (et Canada)

Installation

Effective 11/27/06



LITERATURE NUMBER MPD 32047

DESIGN

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hydro flame™

8900-III-LD Series Furnace MODELS 8935, 8940

Technical Installation Manual

ENGLISH, FRANCAIS (et Canada)

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Door, Deluxe -SPECIFY COLOR

Valves - (1522 = ORANGE) (2334 = WHITE)

Slide Plate

Dual Thermostat

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14

15

17



hydro flame™ 8500-IV **2 Stage Series Furnace** MODELS 1522, 2334

LITERATURE NUMBER MPD 33939

Technical Installation Manual

			Patent No US 6,464,000 Other Patents Pending
ENGLIS	H, FRANCAIS (et Canada)		Installation Maintenance Effective 9/1/03
15			
DRAWING #	DESCRIPTION Plower Wheel	18 Field Wiring Harness	42 Element Assembly - Specify Model
3	Motor Clamp	20 Electronic Ignition Board	43 EXTRAUST WAIL GASKET 45 Recess Pan Assembly-specify color
4	Gasket & Plenum Plate Kit	22 Duct Adapters	46 Mounting Bracket
6	Burner Assembly	23 Duct Cover Plate	47 Venturi
7	Extension Box	24 Electrode	48 Blower Housing Back
<u>8</u>	UN/UFF SWItch Mounting Bracket Value	26 Flex Adapter Plate Assembly Kit	49 Blower Housing
9 10	Combustion Wheel	21 Gas Inlet Plug/Seal	<u>51</u> <u>Circuit Breaker</u>
11	Door Hinges	30 Top/Bottom/Side Cover Plate	52 Control Board Mounting Bracket
12	Door. Standard ORDER BY COLOR	32 Limit Switch	53 Sneed Control Board

10 VDC Motor - Specify Model

Orifices - (1522 = #54) (2334 = #51)

54

55 NS

Adapter Plate

High Tension Lead Noise Suppression

Motor Gasket

Sail Switch

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36 37

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DESIGN



hydro flame™ 8500-IV-LD 2 Stage Series Furnace

MODELS 1522, 2334

Technical Installation Manual Patent No US 6,464,000. 6,719,207. Other Patents Pending

LITERATURE NUMBER MPD 31473

ENGLISH, FRANCAIS (et Canada)

Installation Maintenance

Effective 9/13/04



LITERATURE NUMBER MPD 32044 hydro flame™



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8900-III **2 Stage Series Furnace**

MODEL 2540

TECHNICAL INSTALLATION MANUAL PATENT 6,719,207. OTHER PATENTS PENDING

Installation

Effective 11/27/06

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18

Field Wiring Harness



Element Assembly

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8900-111-LD

2 Stage Series Furnace

MODEL 2540

Technical Installation Manual

Patent No US 6,464,000. 6,719,207. Other Patents Pending

ENGLISH, FRANCAIS (et Canada)

Installation

Effective 11/27/06



hydro flame Furnace REPLACEMENT PART REFERENCE JANUARY 2007	-IV 16	-IV 20	-IV 25	-IV 31	-IV 35	22 2-stage	34 2-stage
NLA - No longer available While supplies last	85-	85-	85-	85-	85-	152	233
Blowers Wheels & Covers							
37605 Blower cover - back (outside)	X	×	X	X	X	X	X
37606 Blower cover - front (inside)	X	X	X	X	×	×	×
37607 Blower Venturi Ring < (NOT REQUIRED)	X	×	X	×	×	×	X
33126 Blower Wheel Kit	X	×	X	×	×	×	×
Burner							
36043 Burner Head	X	X	X	X	×	×	×
35491 Burner Head							
Burner Orifices							
31257 #56 16,000 BTU	X						
31265 1.25MM 18,000 BTU		×					
31267 #54 22,000 BTU						×	
37580 1.45MM 25,000 BTU			X				
31280 #52 31,000 BTU				X			
32285 #51 35,000 BTU					X		×
34004 Burner Orifice 42 (Nat)							
Gircuit Board							
34109 Controller Module Motor Speed						×	×
34543 Controller Module Bracket (NEED 34541)						×	×
31501 Ignition Board Retrotit Kit (w/tan control)	×	X	X	X	X		
34541 Ignition Board bracket	X	×	X	×	×	X	×
34696 Ignition Module						×	×
38224 Ignition Module with Motor Control %							
Circuit Breakers							
33780 / AIVIP KIT (WITH door)	<u>×</u>	×					
			X	×			
33782 15 AMP kit (with door)					×	×	×
34011 / AMP (without door circuit breaker/on/off)	X	X					
34012 10 AMP (without door circuit breaker/on/off)			X	X			
34013 15 AMP (without door circuit breaker/on/off)					×	×	
34015 20 AMP (without door circuit breaker/on/off)							×
37084 Combustion Air Restricter 1-1/4"	X					×	
33128 Combustion Wheel Kit	<u>×</u>	×	X	X	X	×	×
Dratt Cap							
37620 Dratt Cap (5/8" Baffle) (before S/N 1260456)	×	×					
3/619 Draft Cap (3/8" Baffle) (before S/N 1260456)			X	X	X		
38141 Draft Cap (3/8" Baffle). (after S/N 1260455)			X	X	×	×	×
38139 Draft Cap (5/8" Baffle).(after S/N 1260455)	X	×					
Electrodes							
37037 Electrode	×	×	×	×	×	×	×
34370 Electrode for LD'S	×	×	×	×	×	×	×
UdSKETS							
30201 EXHAUST DUX GASKEL * 30026 Exhaust Wall Cooket (before C/M 10CO/FC)	~	~	~	~	~		
J2920 EXHAUST WAII GASKEL (DEIDTE S/N 1200455)	~		× ~	×			~
3/900 EXHAUST WAII GASKET (AITER 5/N 1260455)	~	×	×	×	×	×	~
30280 EXTIBUSE TUDE GASKET ❖	~	~	~	~	~	~	~
JIUU WOLU GASKEL	^	^	^	^	^		^



hydro fla REPLAC JANU * NLA - No Ion Heating Eler	ame Furnace EMENT PART REFERENCE ARY 2007 ger available [%] While supplies last nents	85-IV 16	85-IV 20	85-IV 25	85-IV 31	85-IV 35	1522 2-stage	2334 2-stage	R-25
37960	Htg Element Kit* 16, 20 (before S/N 1260456)	X	X						
37961	Htg Element Kit* 25 (before S/N 1260456)			X					
37962	Htg Element Kit* 31, 35 (before S/N 1260456)				X	X			
38282	Htg Element 🔹								X
*Kit incl	udes draft cap & element gasket								
Switches									
37022	Limit Switch 190°	X	X	X	X	X	X	X	X
36121	on/off Rocker Switch	X	X	X	X	X	X	X	
38279	Pressure Switch ¥								X
36680	Sail Switch	X	X	X	X	X	X	X	
Motor									
34039	Capacitor								X
38223	Motor AU 🔹								X
3/696	Motor PF 20076Q	X	X						
3/69/	Motor PF 23199Q			X	X	~			
3/098	Motor PF 26157Q					~		~	
3/904	Motor PF 201700 (2-STAGE)						~	*	
30004	Motor Clamp	~	~	~	~	~	×	v	
37040	Motor Look Presket	×	×	×	~	×	~	×	
37002	Motor Lock Bracket			~	~	^	~	^	
3/003	Motor Lock Bracket	~	~	^	^		^		
37004	Motor Mounting Wall Kit	~		~	~	v	~	v	
Relay		~				^		^	
31017	Klixon Belav	x	X	X	X	X			
Thermostate					•				
38453	Thermostat (white) Heat only HFH-2000	X	X	X	X	X			
38452	Thermostat (brown) Heat only HFH-2000	X	X	X	X	X			
38535	Thermostat, Digital, 2-Stage 2H2C	•					X	X	
38555	Thermostat, Digital, Single Stage 1H2C	X	X	X	X	X	-		
38291	Thermostat ¥								X
Valves									
37383	Valve, W/R 25M16V-711	X	X	X	X	X			
37384	Valve W/R 25M18-711								X
37973	2-Stage Valve W/R 25M05V-701							X	
38564	2-Stage Valve W/R 25M05V-702						X		
37613	Valve Bracket	X	X	X	X	X			
33475	White Rodgers Coil	X	X	X	X	X	X	X	
Wires									
37987	Field Plug Assembly						×	X	
36290	Field Plug Assembly	X	×	X	X	X			
36327	Field Plug Assy Special (Holiday Rambler)	X	X	×	×	X			
37419	High lension Wire	×	×	×	×	×	×	X	×
345/1	HIGH IENSION LEAD (LD'S ONLY)	×	×	×	×	×			
3///3	Sineided Flyir Telision Wire (optional)	^	^	^	^	^			

hydro flame Furnace REPLACEMENT PART REFERENCE JANUARY 2007	V 16	V 20	V 25	V 31	V 35	2 2-stage	4 2-stage	10
*NLA - No longer available [#] While supplies last	85-1	85-1	85-1	85-1	85-1	152	233	R-2
Miscellaneous								
37844 Air Intake Tube ❖								X
32882 Door Screen	×	X	X	X	X	X	X	
31474 Duct Adapter 4"	×	X	X	X	X	X	X	
36688 Duct Adapter 2"	×	X	X	X	X	X	X	
31361 Duct Cover Plate 4"	×	X	X	X	X	X	X	
37410 Gas Inlet Plug	×	X	X	X	X	X	X	
37411 Slide Plate	×	X	X	X	X	X	X	
38248 Transformer ❖								×
REPLACEMENT COMPONENTS FOR LD FURNACES ONLY								
37383 Valve	×	X	X	X	X			
38564 Valve 2 stage						X		
37973 Valve 2 stage							X	
34422 Vent Assembly				X	X			
34423 Vent Assembly	×	X						
34421 Burner Access Panel/Combustion Cover	×	X	X	X	X	X	X	
34530 Extended Manifold - RIGHT ANGLE INLET	×	X	X	X	X	X	X	
34406 Extended Manifold - STRAIGHT	X	X	X	X	X	X	X	
34645 Gas Line Gasket	X	X	X	X	X	X	X	
34410 Intake Air Adapter	X	X	X	X	X	X	X	
34570 Electrode	×	X	X	×	X	X	×	

hydro fla REPLAC JANU * NLA - No Ior Blower	ame Furnace EMENT PART REFERENCE ARY 2007 Ager available	7912-II	7900-II 16 & 20	8012-II	85-III 16-20	85-III 25	85-III 31-35	89-III DC	89-III AC	2540 2-Stage
33580	Blower Cover				X	X	X			
34014	Blower Cover back (outside)							X	X	X
35881	Blower Wheel STEEL	X	X							
33431	Blower Wheel STEEL			X						
34099	Blower Wheel plastic USE 34550							X	X	X
34550	Blower Wheel STEEL							X	X	X
33126	Blower Wheel and Clamp				X	X	X			
Burner										
36043	Burner	X	X	X						
32811	Burner						X			
33842	Burner				X	X				
35491	Burner							X	X	X
36147	Secondary Air Baffle 7920 & 7916 (after S/N	065115	7) 🗶							
36438	Secondary Air Baffle 7916 (before S/N 06511	56)	X							
36258	Secondary Air Baffle	X		×						
Burner Orifi	Ces									
31257	#56 16,000 BTU		×		X					
31265	1.25 MM 18,000 BTU		X		X					
36218	#60 12,000 BTU (before S/N 0651156) #									
37389	#62 12,000 BTU (after S/N 0651155)	X		X						
31267	#54 25,000 BTU					X				
31280	#52 31,000 BTU						X			
32285	#51 35,000 BTU						X	X	X	
34004	#49 40,000 BTU							X	X	×
34092	#30 40,000 BTU NAT.								X	
34093	#32 35,000 BTU NAT.								X	
Circuit Boar	d									
34109	Controller Module									×
34343	Unition Poord Kit (AC)								~	
3/313	Ignition Board Kit (AC)	~	~	~	~	~	~	~	*	
313UT	Ignition Procket	^	^	^		^ ~	×		~	
34341	Ignition Module					^	^	 ^	^	
34090		~	~	~						×
30119	Ign. Plate Metal 😵									
3/931 Circuit Bros		^	^	^						
	REIS	Y	y y	y I	y y				y I	
25701		×		Y Y	ý				r y	
22790	Broaker Vit 7 AMP				<u> </u>	×				
22200	Broaker 10 AMP						~			
22791	Breaker Kit 10 AMP - DOD UD									
22722	Breaker Kit 15 AMP - DOD UD						~ ¥	v		
20507	Breaker 20 AMP - DOD UD							├		Y
2/015	Breaker 20 AMP - DOCKED SWITCH						Y Y		¥	
54015	DIVERSWILL									

hydro flame Furnace REPLACEMENT PART REFERENCE JANUARY 2007 * NLA - No longer available [#] While supplies last	7912-II	7900-II 16 & 20	8012-II	85-III 16-20	85-III 25	85-III 31-35	89-III DC	89-III AC	2540 2-Stage
Combustion									
35892 Combustion Air Hose	X	X	X						
33128 Combustion Wheel Kit (PLASTIC)				X	×	X	X	×	X
33124 Combustion Wheel Kit	X	X	×						
Door									
37912 Fastener 1/4 Turn Nylatch	X	X	×						
36644 Access Grill (Screw-In) ↔									
37520 Door Assy (1/4 turn fastener)	X	X	×						
37864 Access Grill (1/4 turn Arctic White) No Le	onger Ava	ailable							
37760 Receptacle - Clip on	×	×	×						
31145 Roller Door Catch 🔹	X	×	×						
Draft Cap									
37619 Draft Cap Assy Adjustable 🔹			X	X	X				
38141 Draft Cap 3/8" baffle					×	X	8940	8940	×
38139 Draft Cap 5/8" baffle				X			8935	8935	
Electrodes									
37517 Electrode - single sense	×	X	×						
37057 Electrode - single sense							X	×	×
36998 Electrode - dual sense	X	X	×						
36999 Electrode - dual sense				X	×	×			
36997 Electrode - dual sense							X	×	
37079 Electrode Cover Plate (Single Sense)	×	X	×						
36044 Electrode Cover Plate (Dual Sense) ೫	X	X	×						
Gaskets									
35890 Burner Plate Gasket (use 2)	×	X	×						
32172 Electrode Gasket Dual Sense	×	X	×	X	×	X	X	×	×
37100 Electrode Gasket Single Sense	X	X	×	X	×	X	×	×	×
34053 Element Wall Gasket (before SN1259907)							×	×	×
37956 Element Wall Gasket (after SN1259906)							×	×	×
32926 Heating Element Gasket				X	×	X			
32841 Motor Gasket				X	×	X			
37661 Motor Gasket	X	X	×						
37713 Motor Gasket							×	×	×
Heating Element							 		
30903 Heating Element	X	×	×				I		
3/960 Heating Element Kit* 16, 20,				×					
3/961 Heating Element Kit ² 25					×		 		
3/962 Heating Element Kit [*] 31, 35						×	<u> </u>		
349/0 Heating Element							↓ ~	×	×
33565 Inlet Manifold (before S/N 0654748)				Y	Y	Y			
37302 Outlet Manifold (Jeffor S/N 0654747)					×	Ŷ			
36376 Inlet Manifold (before S/N 0657716) *							<u> </u>	×	
37302 Outlet Manifold (after C/N 0657715)								↓ ^ ▼	
37301 Outlet Manifold (after S/N 0651155)	~	v	~				 ^	^	 ^_
JIJJI UUUELIVIAIIIIUUU (AILEI 5/11 UUSI 155)	^	^	^						
	49)							

ydro flame Furnace EPLACEMENT PART REFERENCE JANUARY 2007		l 16 & 20		l6-20	25	31-35	8	Ţ	-Stage
*NLA - No longer available ^ℜ While supplies last	7912-1	1-0062	8012-1	85-III 1	85-III 2	85-III 3	1 III-68	/ III-68	2540 2
33566 Outlet Manifold (before S/N 0654748)				x	x	x			
35936 Outlet Manifold 🔹	×	X	X						
31043 Brass Inlet Fitting (MALE ELBOW)	×	X	X	X	X	X	X	X	X
Use with Part #'s 37392/37391									
32173 Brass Inlet Elbow (before S/N 0654748)				X	×	×			
otor									
32031 Motor AC								×	
34039 Motor Capacitor AC								X	
36122 Motor PF20066Q			X						
31036 Motor PF20040Q	X	X							
37964 Motor PF26170Q 2 STAGE									X
37360 Motor Bracket Kit				X	X	X			
35879 Motor Bracket	X	X	×						
37359 Motor Kit PF20076Q				×					
37358 Motor Kit PF23190Q					×				
37357 Motor Kit PF26157Q						×	X		
lay									
31017 Klixon Relay vitches	X	X	X	×	×	×	×	×	
37021 Limit Switch L77 / 170°	×	X	X				X	X	X
37022 Limit Switch L190°				×	×	×			
36121 ON-OFF Switch (ROCKER)	×	X	X	X	X	X	X	X	X
36133 Sail Switch	×	X							
36134 Sail Switch			X						
36680 Sail Switch				x			X	×	X
35054 Sail Switch					X			-	
35050 Sail Switch						X			
36040 Sail Switch Bracket	X	X	×						
ermostats	•	•							
38452 Thermostat (brown) Heat Only HFH-2000	×	X	X	x	X	X	X	X	
38453 Thermostat (white) Heat Only HEH 2000	X	X	X	x	X	X	X	X	
38535 Thermostat, Digital, 2 Stage 2H2C	•	•	•		•	-		•	X
38555 Thermostat, Digital, Single Stage 1H2C	x	X	X	x	x	x	x	x	
		,		~		· ·			
36035 White Rodgers 25M16-503 Side Port	×	X	X						
(before S/N 0651156) ◆									
37383 White Rodgers Side Outlet (after S/N 0651155) 25M16V-711	X	×	×						
33475 White Rodgers Coil (DC)	X	X	×	x	×	×	x	×	x
36036 White Rodgers Valve Bracket #	×	X	X	-					
(Use with Part #'s 36035)									
37390 White Rodgers Valve Bracket (Use with Part #'s 37383)	×	×	×						
33337 White Rodgers (before S/N 0654748-85 set 25M16V-701 (before S/N 0657716-89 series)	ries)		×	×	×	×			
37383 White Rodgers Side Outlet (After Serial #0654747) 25M16V-711				×	×	×			

hydro REPL JA	flame Furnace ACEMENT PART REFERENCE NUARY 2007	912-II	900-II 16 & 20	012-11	5-III 16-20	5-III 25	5-III 31-35	9-III DC	9-III AC	540 2-Stage
		-	2	8	õ	œ	80	æ	8	3
33	586 White Rodgers Valve Bracket				x	x	x	x		
(Jse with Part # 33337)									
37	126 White Rodgers Valve Bracket				×	X	X	X		
37	JSE WILLE Part # 37303) 383 White Bodgers Valve (DC) (After S/N 065771	5)					×			
34	106 White Rodgers Valve (AC) (Before S/N 06577) 16)						x		
-04	25M18V-701	10)								
37	384 White Rodgers Valve (AC) (After S/N 065771	5)						X		
34	515 White Rodaers Coil (AC)								X	
37	973 2-Stage Gas Valve W/R 25M05V-701									X
Vent Kit										
35	955 79A-II 4 inch	X	X	X						
35	956 79B-II 8 inch	X	X	X						
35	957 79C-II 12 inch	X	X	X						
Wires										
37	987 Field Plug Assembly									X
36	290 Field Plug Assembly				X	X	X			
34	116 High Tension Lead	X	X	X						
35	193 High Tension Lead (before S/N 0654748)				×	X	X			
37	119 High Tension Lead (after S/N 0654747)				X	X	X			
35	193 High Iension Lead (before S/N 0657716)							X	X	
3/	High lension Lead (after S/N 0657715))					~	~	X	X	×
30	180 Wiring Harness Complete (Internal)		~		×	X	X	~		
34	Wiring Harness Complete DC		×					X	~	
J/ Micooll									^	
WIISCEII	121 24 VAC Transformer								X	
36	112 Casing Assembly	X	×						~	
35	912 Control Box	X	X	X						
37	131 Control Box	•						x	X	X
36	359 Directional Air Box Insert	X	X	X						
31	174 Duct Adapter 4"	X	X	X	X	X	X	x	X	X
36	588 Duct Adapter 2"	X	X	X	X	X	X	X	X	X
31	361 Duct Cover Plate	X	X	X	X	X	X	X	X	X
33	667 Gas Inlet Plug (Before S/N 0654748)				X	X	X			
37	110 Gas Inlet Plug (After S/N 0654747)				X	X	X			
33	667 Gas Inlet Plug (Before S/N 0657716)							X	X	X
37	110 Gas Inlet Plug (After S/N 0657715)							X	X	X
33	729 Slide Plate (Before S/N 0654748)				×	X	X			
37	111 Slide Plate (After S/N 0654747)				X	X	X			
33	729 Slide Plate (Before S/N 0657716)							X	X	
37	142 Slide Plate (After S/N 0657715)							X	X	×

hydro flame Furnace REPLACEMENT PART REFERENCE	6-20	Q	1-35	5	9	2	ų			_	0
JANUARY 2007		-II 2	9-II 3	ā	-I A(-II-	191	79P	801	= 80F
*NLA - No longer available [%] While supplies last	8	8	8	80	80	86	ő	12	E E	∣≖	Ŧ
Blower											
33580 Blower Cover	×	X	X								
33431 Blower Wheel								X	X	X	×
33618 Blower Wheel		X	X								
33619 Blower Wheel ↔	X										
34550 Blower Wheel STEEL				X	X	X	X				
Burner											
32149 Burner 🚸											
32811 Burner			X								
33842 Burner	X	X									
38548 Burner				X	X						
35491 Burner						X	X				
Burner Orifice											
31268 #59 12,000 BTU ❖								X	X	X	X
31257 #56 16,000 BTU	X							X	X		
31265 1.25 MM 20,000 BTU								X	X		
31267 #54 25,000 BTU		X									
31280 #52 31 & 32,000 BTU			X								
32285 #51 35,000 BTU			X	X	X	X	X				
34004 #49 40,000 BTU				X	X	X	X				
34093 #32 35,000 BTU NAT				X	X	X	X				
34092 #30 40,000 BTU NAT				X	X	X	X				
Circuit Board											
34541 Ignition Board Bracket	X	X	X	X	X	X	X				
37515 Ignition Board Kit (AC)					X		X				
31501 Ignition Board Kit (DC)	X	X	X	X		X		X		X	
Circuit Breaker											
31028 Breaker 5 AMP	X				X		X	X	X	X	X
33780 Breaker 7 AMP KIT		X									
33590 Breaker 10 AMP			X								
33784 Breaker 15 АМР кіт				X		X					
Combustion											
31881 Combustion Air Hose 🔹								X	X	X	×
33124 Combustion Wheel Kit								X	×	X	×
33128 Combustion Wheel Kit	×	X	X	×	X	X	X				
Door											
33753 Deluxe Door 01 White	X	X	X	×	×	X	X				
33754 Deluxe Door 02 Colonial White	X	X	X	X	X	X	X				
33756 Deluxe Door 04 White	X	×	X	×	×	X	X				
33763 Deluxe Door 11 White	X	×	X	×	×	X	X				
35001 Deluxe Door 18 Gray	X	×	X	X	×	X	X				
35057 Deluxe Door 20 Gray	X	X	X	×	×	X	X				
35101 Deluxe Door 22 White	X	×	X	×	×	X	X				
35102 Deluxe Door 23 White	X	X	X	×	×	×	X				
		*	+	•	÷	•			•		· ·

EPLACE JANUA	<i>ne</i> Furnace MENT PART REFERENCE RY 2007	5-II 16-20	5-II 25	5-II 31-35	9-1 DC	9-I AC	9-II DC	9-II AC	A 79D	A79P	IF 80D	IF 80P
NLA - No longe	er available [#] While supplies last	8					8	æ				-
33853 F	Recess Pan 01 White	x	x	x	x	x	x	x				
33854 F	Recess Pan 02 Colonial White	×	X	X	X	X	X	X				
33856 F	Recess Pan 04 White	×	X	X	X	X	X	X				
33863 F	Recess Pan 11 White	×	X	X	X	X	X	X				
35063 F	Recess Pan 12 Grev	×	X	X	X	X	X	X				
35104 F	Recess Pan 22 White	X	X	X	X	X	X	X				
35105 F	Recess Pan 23 White	X	X	X	X	X	X	X				
33847	Door Catch Screw Type (set)	X	X	X	X	X	X	X				
33620	Door Hinge - inner (order 2 per door)	X	X	X	X	X	X	X				
31145 F	Roller Door Catch 🔹			-	-	-			X	X	X	×
raft Cap									-	-	-	-
37890 D	Draft Cap Assembly -				X	X	X	X				
37619 D	Draft Cap Assembly 🛠	×	X	X								
lectrodes	· •											
33234 E	Electrode								X		X	
36999 E	Electrode	X	X	X								
38548 E	Electrode				X	X						
36997 E	Electrode						X	X				
36998 E	Electrode								X		X	
xhaust Tube	Extensions											
31680 7	79/80A (0´´ - 3-1/2´´) NLA								X	X	X	X
askets												
34551 B	Bottom Discharge Gasket				X	X	X	X				
34553 B	Bottom Discharge Gasket	X	X	X								
31842 B	Burner Plate Gasket									X		X
31843 B	Burner Plate Gasket								X		X	
33485 C	Combustion Gasket Set								X	X	X	X
32172 E	Electrode Gasket	X	X	X	X	X	X	X	X		X	
32926 E	Exhaust Wall Gasket	X	X	X								
34053 E	Exhaust Wall Gasket				X	X	X	X				
32841 N	Notor Gasket	×	X	X	X	X	X	X				
eating Elem	ents											
34976 ⊦	leating Element				X	×	X	X				
37960 ⊦	leating Element Kit*	×										
37961 ⊦	leating Element Kit*		X									
37962 ⊦	leating Element Kit*			X								
*Kit inclu	des draft cap & element gasket		L									
lotor												
34039	VIOLOF GAPACITOR AU		<u> </u>			×		X				
32031	VIOLOF / 162-2839E AU		<u> </u>			×		×				
31035			<u> </u>								×	×
31030									×	×		
32//4			×									
33219 N		×	<u> </u>									
33589			<u> </u>	×								
37360		×	×	×								
07055	VIDTOR KIT	1	1	1	X	1	X	1	1	1	1	1

hydro flame Furnace REPLACEMENT PART REFEREN JANUARY 2007	85-II 16-20	85-II 25	85-II 31-35	89-1 DC	89-I AC	89-II DC	89-II AC	FA 79D	FA79P	HF 80D	HF 80P
*NLA - No longer available ** While supplies last											
Pilot											
32466 1/4 x 7 Pilot Tube w/ fittings									X		X
33830 Jade Orifice .008									X		X
31307 Jade Thermal Couple 14"									X		X
31299 Jade Pilot Assembly J721013CL	.P								X		X
36038 Piezo Igniter Kit								X	X	X	X
Relay											
31017 Klixon Relay	×	X	X	×	X	X	X	X	×	X	X
Switches											
31023 Limit Switch L170								X	X	X	X
35132 Limit 130 Switch	×	X	X	X	X						
37021 Limit Switch L77-C						X	X				
35047 Sail Switch ↔								X	X	X	X
35050 Sail Switch			X								
36680 Sail Switch	X			X	X	X	X				
35054 Sail Switch		X									
36205 Thermal Cut-Off 8900-II						X	X				
Thermostat											
38452 Thermostat (brown) heat only	X	X	X	X	X	X	X	X	X	X	X
38453 Thermostat (white) heat only	×	X	X	X	X	X	X	X	X	X	X
Valve											
33716 ITT Valve Retrofit Kit (pilot)									X		X
33796 ITT/FEN Valve Retrofit Kit (Election	ronic Ignition)							X		X	
32697 Robertshaw Valve 7000 ERLC-L	P								X		X
33337 White Rodgers Valve 25M16-70	1 (DC) 🗶	X	X	X		X		X		X	
33475 White Rodgers Coil (DC)	X	X	X	X		X		X		X	
34006 White Rodgers Valve 25M18-70	1 (AC)				X		X				
34515 White Rodgers Coil (AC)					X		X				
Wires											
31090 High Tension Lead 💠											
33661 High Tension Lead 🔹											
35193 High Tension Lead				×	X	X	X				
35235 Wiring Harness Blower AC 🔹					X						
Miscellaneous											
35121 24 VAC Transformer					X		X				
31361 Duct Cover Plate	×	×	×	×	×	X	×	×	×	×	×
31474 Duct Adapter	×	X	×	×	×	X	X	X	×	X	X
33567 Gas Inlet Plug	×	X	×	×	×	X	X				
33729 Slide Plate	×	X	×	X	×	X	X				

hydro flame Furnace	_			8	-			5		
REPLACEMENT PART REFERENCE	3-20		-35	5	5-4			25-3		_
JANUARY 2007	110	1 25	131	82 2	82 3	82	76D	78 2	720	72P
◆ NLA - No longer available While supplies last	85-	85-	85-	BC	B	AC	F	FA	FA	FA
Blower										
31135 Blower Wheel ❖									X	X
31139 Blower Wheel				X	X	X		X		
32775 Blower Wheel ❖		X	X							
32776 Blower Wheel	X									
Burner										
32002 Burner 🛠					X	X				
32112 Burner ೫				X				X		
32811 Burner	X	X	X							
Burner Orifice										
31270 #66 Orifice									X	X
31268 #59 Orifice ❖							X			
31257 #56 16,000 BTU	×									
31265 1.25mm 18,000 BTU	X									
31267 #54 25,000 BTU		X		X				X		
31280 #52 31 &32,000 BTU		-	X	X				X		
32285 #51 35.000 BTU			X	-	x	X		-	X	
31256 #50 41.000 BTU			-		X	X			-	
32284 #40 35.000 BTU NAT						X				
32238 #36 41.000 BTU NAT ¥						X				
Circuit Breaker										
31028 Breaker 5 AMP	X					X	X		X	X
33780 Breaker 7 AMP	-	X					-		•	-
33590 Breaker 10 AMP		-	X	X	X					
Circuit Board				-						
31501 Ignition Board Kit (DC)	X	X	X	X	X		x	X	X	
37515 Ignition Board Kit (AC)	-	-	-	-	-	X	-	-	•	
Combustion						-				
33124 Combustion Wheel Kit	X	X					X			
31138 Combustion Wheel 🔸					X	X				
37107 Combustion Wheel ↔			X							
Electrodes										
33234 Electrode							X			
33235 Electrode				X	X	X		X		
33625 Electrode Kit	X	X	X							
36999 Electrode Only	X	X	X							
Gaskets										
34551 Bottom Discharge Gasket				X	X	X		X		
34553 Bottom Discharge Gasket	X	X	X							
31838 Burner Plate Gasket									X	X
32762 Burner Plate Gasket				X	X	X		X		
33485 Combustion Gasket Set							×			
32172 Electronic Ignition Electrode Gasket	X	X	X	X	x	X	X	X	X	
32926 Element Gasket	X	X	X	+	. 		-	-		
31841 Manifold Gasket	-	-	-	X	X	X		×		
32841 Motor Gasket	X	X	X	-	-	· ·		-		
Heating Elements	-		+ • ·							
32118 Heating Element Assembly				×				X		
32119 Heating Element Assembly					x	X		-		
					-	<u> </u>				

hydro flame Furnace REPLACEMENT PART REFERENCE JANUARY 2007	85-1 16-20	85-1 25	85-1 31-35	DC82 25-32	DC82 35-41	AC 82	FA 76D	FA 78 25-32	FA 72D	FA 72P
NLA - No longer available While supplies last	-	-	-		-					-
Motor										
31039 Motor JA25065N (AC)						X				
31036 Motor PF2040Q							X			
31037 Motor PE2423Q									X	X
31038 Motor PE2627Q								X		
32330 Motor PF23129Q				X	X					
32774 Motor PF23175Q		×	X							
33219 Motor PF2055Q	X									
37360 Motor Bracket	X	X	X							
Pilot										
31292 ITT Pilot Assembly 26C1762										X
33829 ITT TV Orifice .010 *				X	X			X		
32417 ITT TV Orifice .008										X
31299 Jade Pilot Assembly J72C2426CL				X	×			X		
32416 Jade Orifice .010 *				X	X			X		
31307 Jade Thermocouple 14"										X
32480 Jade Thermocouple 18"				X	X			X		
Relay										
31017 Klixon Relay	X	X	X	X	X	X	X	X		
Switch										
31023 Limit 170 Switch							X		X	X
31025 Limit 190 Switch w/plate				X	X	X		X		
32927 Limit 190 Switch	X	X	X							
35282 Sail Switch	X	X	X							
33697 Sail Switch 🔹				X	X	X		X		
Thermostat										
38452 Thermostat (brown) heat only	X	X	X	X	X	X	X	X	X	X
38453 Thermostat (white) heat only	X	X	X	X	X	X	X	X	X	X
Valves										
33717 ITT Valve Retrofit Kit (pilot) 🔹										X
33688 ITT/FEN Valve Retrofit Kit (DSI)				X	X		X	X		
33797 ITT/FEN Valve Retrofit Kit (DSI)							X			
33806 ITT/FEN Valve Retrofit Kit (DSI)									X	
36728 Johnson Valve Retrofit Kit (DSI) (AC)						X				
33475 White Rodgers Coil	X	X	X	X	X		X			
33337 White Rodgers Valve 25M16-701	X	X	X	X						
Wire										
32139 Field Hookup				X	X			X		
32140 Field Hookup						X				
Miscellaneous										
32475 12 VDC Converter						X			X	X
33784 24 VAC Transformer						X				
31831 Door Interior 🔹				X	×	×				
33774 Door Catch Assemblies *										
31474 Duct Adapter	X	×	X	X	×	×		X		
31361 Duct Cover Plate	X	X	X	X	×	×	X	×		
32137 Exhaust Tube Ext. 82F 🔹				X	×	×		×		
32133 Vent Shell (only) 82BE 🔹				X	X	×		×		
32134 Vent Shell (only) 82AD 🔹				X	X	X		X		

Atwood Furnace Installation Parts

Part #	Appearance	Description
34438		Floor plate and (3) adapters for 4" ducts to rear of furnace.
36278		Adapter plate for bottom discharge - with foam seals on both sides.
36277		Adapter plate for bottom discharge - no seals but with alignment tabs. Use with gasket 34551.
37745		Adapter plate for bottom discharge - same as 36277 except includes foam seals on both sides.
37878		Extension plenum, rear discharge to floor duct with two seals.
33150		Extension plenum, rear discharge to floor duct with one seal.
37868	A CONTRACTOR	Adapter plate for bottom discharge - from extension plenum. No seals but with alignment tabs. Use with extension plenum 33150 or 37878.

Series 85 and 2-Stage Furnaces

Atwood Furnace Installation Parts

Series 89 and 2-Stage Furnaces

Part #	Appearance	Description
36897		Adapter plate for bottom discharge - has alignment tabs and foam seals on both sides.

Series 79 and 80 Furnaces

Part #	Appearance	Description
37452		Field Kit, side discharge

All Atwood Furnaces

Part #	Appearance	Description
31474		Duct adapter - 4"
36688		Duct adapter - 2"
31361		Cover plate - 4"
34553		Foam tape seal 29" x 1/2"
34689		Foam tape seal $32" \times 1/2"$ (used with 36277)
	\square	Foam tape seal 42" x 1/2"

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The data presented in this publication is obtained from the most reliable sources, and is believed to be accurate as of the date of publication. Responsibility for typographical errors or omission of data cannot be assumed by the publishers. Data is subject to change without notice.

Atwood Straight Tongue Couplers









80051, 80055, 80056

80060

B

80131

STRAIGHT TONGUE COUPLER SELECTION GUIDE

Part No	Description	LATCH	Rated	S.A.E	ļ	A		B*		C		D		E		F
1 417 140.	KIT		Cap. Ibs.	Class	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
80051	2" ball, 3" channel, bolt-on painted	15775	3,500	2	9 ³ /8	238	3	76	11	279	7/8	22	3/4	19	3	76
80055	2" ball, 3" channel, bolt-on zinc-plated	15775	3,500	2	9 ³ /8	238	3	76	11	279	7/8	22	3/4	19	3	76
80056	2" ball, weld-between, 3" channel unpainted, zinc plated latch	15775	3,500	2	9 ³ /8	238	3	76	11	279	7/8	22	3/4	19	3	76
82311	2" ball, weld-between, painted	15775	3,500	2	7 ⁵ /8	194	3	76	91/4	235	_	_	_	_	_	
82315	2" ball, weld-between, unpainted, zinc plated latch	15775	3,500	2	7 ⁵ /8	194	3	76	91/4	235	—	_	_	_	_	
80060	2" ball, 3" channel, painted	15775	5,000	3	9 ³ /8	238	3	76	11	279	_	_	_		_	
80082	2" ball, 2" channel, painted	15775	5,000	3	91/2	241	2	51	11	279	_	_	_	_	_	
80083	2" ball, 2" channel unpainted, zinc plated latch & clamp	15775	5,000	3	9 ¹ /2	241	2	51	11	279	_	_	_	_	_	
80186	2" ball, 2" channel, painted	15775	6,000	3	91/2	241	2	51	11	279	—	—	-	_	—	_
80131	2 ^{5/} 16" ball, 3" channel, painted	07532	8,500	4	12	305	3 1/8	79	14	356	_	_	_	_	_	_

• B dimension is the inside dimension relating to channel size

Atwood A-Frame Couplers

A-FRAME COUPLER SELECTION GUIDE



81911, 81912, 81915, 81916

84800

88007, 88010, 88555, 88600, 88000, 88005

* Various aspects of design, including the latch handle design, are registered as a trademark of Atwood Industries, Inc.

Dort No.	Description	LATCH	Rated		Α		В			;
Part NO.	Description	КІТ	Capacity Ibs.	Class	in.	mm	in.	mm	in.	mm
80072	2" ball, painted, weld-on, yoke style	15775	5,000	S.A.E. 3	123/8	314	9 1/4	235	14	356
84176	2 " ball, unpainted, weld-on, yoke style zinc latch	15775	5,000	S.A.E. 3	12 ³ /8	314	9 1/4	235	14	356
84035	2 " ball, painted, weld-on, yoke style	15775	5,000	S.A.E. 3	133/8	340	10 3/8	264	147/8	378
84800	2" ball, painted, weld-on, yoke style	15775	6,000	S.A.E. 3	123/8	314	9 1/4	235	14	356
88555	2 " ball, painted, weld-on, thumb latch style	88051	8,000	S.A.E. 4	9 7/8	251	9 3/4	248	117/8	302
88600	2" ball, unpainted, weld-on, thumb-flip latch style		8,000	S.A.E. 4	9 7/8	251	9 3/4	248	117/8	302
80101	$2{}^{5\!/}_{16}$ ball, painted, weld-on, yoke style	15774	8,500	S.A.E. 4	12	305	10	254	14	356
88007	$2{}^{5\!/}_{16}$ ball, painted, weld-on, flip latch style	88061	10,000	S.A.E. 4	10 7/8	276	10 3/8	264	13	330
88010	$2{}^{5\!/}_{16}$ ball, unpainted, weld-on, flip latch style	88061	10,000	S.A.E. 4	10 7/8	276	10 3/8	264	13	330
81911	$25/_{16}$ " ball, painted, weld-on, thumb latch style	NA	10,000	S.A.E. 4	11	279	107/8	276	123/4	324
81915	$25/_{16}$ " ball, unpainted, weld-on, thumb latch style	NA	10,000	S.A.E. 4	11	279	107/8	276	123/4	324
81912	$25/_{16}$ " ball, painted, weld-on, thumb latch style	NA	13,000	S.A.E. 4	11	279	10 5/8	270	12 3/4	324
81916	$2{}^{5/}_{16}$ ball, painted, weld-on, thumb latch style w/plate	NA	15,000	S.A.E. 4	11	279	10 5/8	270	12 3/4	324
82680	$25/_{16}$ " ball, painted, weld-on, thumb latch style	NA	13,000	S.A.E. 4	11	279	10 5/8	270	131/8	333
88000	2" ball, obsolete - old style marvel	88050	** Top plate 82740 is 82681 coupler is t	packed with 82 he same as 826	2680 coupler. 880 except it is	packed without	a support plat	e.		
88005	2 ^{5/} 16" ball, obsolete - old style marvel	88060	Top plate 22375 car application.	also be used wi	th 82680 or 826	B1 coupler if a Te	op Mount A-Fran	ne Jack (5,000 lbs	s. max) is use	d in this

⊞⊞

Atwood Specialty Couplers





Unique - 80073



Straddlemount

83461 — 50° Coupler 83462 — 50° Coupler 84140 - 50° Coupler

Straddlemount



83549 — 60° Coupler 83551 — 60° Coupler 84060 — 60° Coupler

SPECIALTY COUPLER SELECTION GUIDE

	Part No.	Description	LATCH	Rated	S.A.E.	A	l	E	8	C D		נ	E	F			
			NI	Cap. IDS.	Class	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
	80073	2" ball, galvanized, bolt-on, yoke style	15775	5,000	3	12 ³ /8	314	9 ¹ /4	235	14	356	-	-	-		-	_
	80075	2" ball, rack jack mount, painted, yoke style latch	15775	5,000	3	13 ³ /8	340	10 ³ /8	264	14 ⁷ /8	378		—	_	_	_	—
OBS	80285	4 hole bracket for adj. coupler		12,000	_	2	51	7.5	191					_	_	—	—
	80355	4 hole bracket for adj. coupler		15,000	—	2	51	9.34	237.2						_	_	_
	80308	6 hole bracket for adj. coupler	_	15,000	—	2	51	13.34	338.8					-	_	_	—
	81906	2 ⁵ /16" ball, adj. coupler w/o brkt	07532	15,000	—	7.25	184	2.8	76	9.25	235	-	—	_	—	_	—
OBS	80290	2 ⁵ /16" ball, adj. coupler weld on	07532	12,000	—	7	178	3	76	9	229						
	75074	flat nose coupler, painted		25,000	—	6	152	4 ¹ /2	114	6 ³ /4	171	3 ³ /4	95	4 ¹ /2	114	6	152
OBS	80281	2 ⁵ /16" ball, adj. coupler w/o brkt	07532	12,000		7	178	3	76	9	229		_				_
	Mobil	e home only – 2 ⁵ /16 ball	, straddle	mount ·	- thur	nb latcl	1										
	83461	coupler 50°, painted	NA	32,000	—	8	203	6 ⁷ /8	175	9 ⁷ /8	251		—		—	—	—
	83551	coupler 60°, painted	NA	32,000	—	8	203	7 ⁷ /8	200	9 ⁷ /8	251	-	—	_	—	—	—
	84140	coupler 50°, painted	NA	40,000	—	8	203	6 ⁷ /8	175	9 ⁷ /8	251	I	—	I	_		
	84060	coupler 60°, unpainted	NA	40,000	—	8	203	7 ⁷ /8	200	9 ⁷ /8	251	_	—	—	—	—	—
	83462	coupler 50°, unpainted	NA	44,000	—	8	203	7 7/8	200	9 ⁷ /8	251		_	_	_		—
	83549	coupler 60°, unpainted	NA	44,000	—	8	203	6 ⁷ /8	175	9 ⁷ /8	251	_	—	—	—	—	—

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o

80285 OBS

Atwood Hitch Balls HITCH BALL SELECTION GUIDE

Part No.	Description	Rated	A		В		C		D		E		F	
		Capacity lbs.	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
84137	2 ⁵ / ₁₆ " forged hitch ball	40,000	2 ¹ /8	54	1 ¹ /4	32	2 ¹ /2	64	1 ³ /8	35	1 ³ /4	45	2 ¹ /8	54
80212	2 ⁵ /16" forged hitch ball	13,000	2	51	1 ¹ /4	32	21/2	64	1 ³ /8	35	2	51	2 ¹ /8	54
80202	2" hitch ball	8,500	1 ⁹ /16	40	1 ³ /16	30	2 ¹ /4	57	1 ³ /8	35	1 ⁵ /8	41	2 ¹ /8	54
82551	2" forged hitch ball	6,000	1 ³ /4	45	1 ³ /8	35	2	51	1	25	1 ¹ /2	38	1 ¹ /2	38
80201	2" forged hitch ball	5,000	1 ³ /4	45	1 ³ /8	35	2	51	1	25	1 ¹ /2	38	1 ¹ /2	38

Each Atwood hitch ball comes complete with a lock washer and hex nut for quick, secure installation, and meets all applicable S.A.E. and D.O.T. standards.

• The hitch ball should always be checked for correct size.

• Match coupler and check for wear and roundness.

• Always replace hitch ball and coupler if components are damaged or loose.






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ENGLISH, FRANÇAIS (et Canada)

2" Yoke Style Coupler

LATCH REPLACEMENT

Installation •Operation •Maintenance

Effective 10/10/06

2-5/16" Yoke Style Coupler



For complete coupler instructions consult MPD 87984.



• Replace couplers that are worn or damaged, or not operating freely.



- Coupler must be disengaged from hitch ball.
- Latch must be in closed position for repairs.

TO TAKE APART

- 1. Grind off staked end of pin (FIG 1 & 2-C) that goes through nose of coupler.
- 2. Slide pin out side of coupler.
- 3. Remove ball clamp (FIG 1 & 2-B) from under side of coupler nose.
- 4. Remove latch and yoke assembly from top of coupler nose.
- 5. Discard old parts. DO NOT REUSE!



INSTALLATION PROCEDURE

- 1. Place latch and yoke assembly (FIG 1 & 2) over coupler nose and align holes on yoke assembly with holes on sides of coupler nose and hold in place.
- Place ball clamp (FIG 1-B & 2-B) inside nose of coupler and align its holes with holes in yoke assembly and holes in sides of coupler nose.

3. For 2" coupler -

- a. Place insert sleeve (FIG 1-E) into ball clamp (FIG 1-B) and install under coupler nose.
- b. Place washer (FIG 1-F) on bolt (FIG 1-C).
- c. Align the hole in the latch yoke assembly (FIG 1 A) and insert sleeve/ball clamp assembly (FIG 1 B & E) with the hole in the coupler nose. Then install bolt assembly (FIG 1 C & F) through both sides of coupler nose.
- d. Place other washer (FIG 1-H) and nut (FIG 1-D) on exposed threaded portion of bolt and torque nut to 15 ft. lbs.

3. For 2-5/16" coupler -

- a. Place ball clamp (FIG 2-B) under coupler nose.
- b. Align the hole in the latch and yoke assembly (FIG 2-A & G) and ball clamp (FIG 2-B) with the hole in the coupler nose. Install the hole in the coupler nose followed by the bolt (FIG 2-C).
- 4. Check coupler for proper latching on a proper diameter ball. Insert ball, close coupler. The two legs of the latch handle (FIG 1 & 2-G) MUST fit snugly into the mating 2 slots on top of the coupler.



Atwood

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Yoke Style Coupler TROUBLE SHOOTING GUIDE

Effective: 8/21/06

Guides are only intended for use on Atwood[®] products by service technicians who have successfully completed Atwood® training. This guide should be used in conjunction with the appropriate Instruction Manual provided with the product and any applicable Industry Standards. This is not intended to be a complete list. Please direct questions concerning service of Atwood® products to 866-869-3118 before proceeding.

🛆 warning PERSONAL INJURY AND/OR PRODUCT DAMAGE

• If any of the following conditions develop, the trailer must not be used until proper corrective action is taken.

CONDITION WITH SOLUTIONS

Chucking or Clatter

Lack of ball lubrication	Lubricate with conventional automotive grease or commercial lubricant made for hitch balls
Loose hitch ball	Inspect hitch ball and tighten
Hitch ball worn or too small	Replace ball
Worn ball clamp	Replace coupler
Worn ball socket	Replace coupler
Multi-piece ball	Replace with one piece ball

Release Handle Does Not Close Easily

	•
Oversize ball	Check ball size
Ball not fully inserted	Check for proper ball size. Check
into ball socket	to see if jack is fully retracted. Insure
	release handle is open when inserting ball.
Broken release handle spring	gReplace release handle and yoke
	assembly

Obstruction in ball socketClean ball socket Seized ball clamp.....Lubricate clamp with SAE 30 oil or replace coupler.

CONSUMER MAINTENANCE CHECKLIST

- MONTHLY CLEAN AND GREASE. If the ball socket or ball clamp show any signs of unusual wear or deformation, the entire coupler should be replaced. The ball clamp is not replaceable.
- REGULARLY CHECK THE HITCH AND BALL FOR WEAR
- All mounting hardware on the hitch should be tight and any worn bolts, washers or nuts should be replaced. The ball should not show any signs of unusual wear or scoring. If this is present, the ball should be replaced and the coupler socket should be checked for dirt or obstructions and a film of grease applied to the socket.
- REGULARLY OIL ALL SLIDING PARTS OF THE COUPLER WITH S.A.E. 30 OIL.... The primary parts this pertains to are the bolt that the ball clamp and yoke latch swivel on and the thumb latch.
- REGULARLY INSPECT THE COUPLER WELDS. Look closely for hairline cracks and if any are visible, grind the weld off and re-weld according to the instructions provided in the product IOM. If the coupler is bolted to the frame, inspect the mounting bolts. Tighten them or replace if necessary.
- REGULARLY INSPECT THE COUPLER BODY FOR ANY CRACKS OR DEFORMITIES. If any exist, do not attempt to weld the cracks or straighten the body. Replace the coupler.
- REGULARLY CHECK THE LATCH MECHANISM MOVES FREELY. If it does not, remove any obstructions. If the spring in the mechanism is damaged, replace the entire yoke latch.

Surge System Terminology

TERMINOLOGY	DEFINITION	ŀ
Backing Plate	the round thin machined plate of the foundation brake that attaches to the axle flange and to which all the brake components are attached.	
Ball Clamp	the device in the ball socket that retains the hitch ball.	
Ball Socket	the nose casting of the actuator that receives the hitch ball.	
Bleeder Nut	the threaded nut on the wheel cylinder casting used in bleeding the brake system.	
Bleeding Brakes	the process in which the air is purged from the hydraulic system.	
Boot	the protective external rubber seal of the wheel cylinder and master cylinder.	
Brake Line	typically 3/16" steel tubing that transfers hydraulic fluid from the actuator to the foundation brakes.	:
Brake Shoe	the steel web and attached asbestos lining that produce the friction against the drum for braking.	
Break-away Device	the actuator device connected to the tow vehicle that immediately locks up the brake system, should the	
	tow vehicle and trailer become disconnected in transit.	1
Chucking	the term used to describe the condition of a jerky braking motion.	,
Hold Down Springs	the springs that retains the shoes to the backing plate of the foundation brake.	

TERMINOLOGY	DEFINITION
Lock-out Lever	the device on the actuator that inactivates the brake so that the trailer can be backed up.
Master Cylinder	the reservoir housed in the actuator that contains and supplies all of the brake fluid to the surge system.
Piston	the inside workings of the master cylinder and wheel cylinder that pump hydraulic fluid.
Push Rod	the heavy coiled rod that engages the inlet of the master cylinder.
Release Handle	the thumb latching mechanism on the top of the actuator that opens and closes the ball clamp.
Shock Absorber	the gas filled piston in the actuator that smooths out the braking motion.
Shoulder Bolt	the bolt that links the ball socket, shock absorber and push rod.
Surge Brake Actuator	the entire brake housing and its components that are attached to the tongue of the trailer.
Surge Brake System	a hydraulic self-contained system of components that require forward motion of the trailer for braking.
Uni-Servo Brakes	indicates that there is braking only in the forward motion of trailer. The pistons on the trailer brakes face forward.
Wheel Cylinder	the casting on the foundation brake that transfers hydraulic pressure from the master cylinder to the brake shoes.

Atwood Curao

Alwu Brak Surge I	ou Surye e Actuator Brake Actuator S	ıide _														
Part No.	Description	Rated Capacity Ibs.	Class	Tongue Load (max.)		A	В	C	D	E	F	G	Н	I	J	к
82543	2" ball, painted	6,000	S.A.E. 4	900 lbs.	nm in.	7/ ₈ 22	3 76	1 ¹ /8 29	5 ¹ /8 130	119/ ₁₆ 294	13 ^{3/} 16 335	6 ⁵ /8 168	1 ¹¹ / ₁₆ 43	^{11/} 16 17	31/ ₁₆ 78	4 ⁵ /8
83153*	2" ball, painted, zinc plated latch	6,000	S.A.E. 4	900 lbs.	m in.	7/ ₈ 22	3 76	1 ¹ /8 29	5 ¹ /8 130	119/ ₁₆ 294	13 ^{-3/} 16 335	6 ^{5/} 8 168	1 ¹¹ / ₁₆ 43	^{11/} 16 17	3 ^{1/} 16 78	4 ⁵ /8
84132	2" ball, zinc plated	6,000	S.A.E. 4	900 lbs.	nm in. r	7/ ₈ 22	3 76	1 ¹ / ₈ 29	5 ¹ /8 130	119/ ₁₆ 294	13 ^{3/} 16 335	6 ^{5/} 8 168	1 ^{11/} 16 43	^{11/} 16 17	3 ^{1/} 16 78	4 ⁵ /8
84133*	2" ball, zinc plated, zinc plated latch	6,000	S.A.E. 4	900 lbs.	mm in. r	7/ ₈ 22	3 76	1 ¹ / ₈ 29	5 ¹ /8 130	119/ ₁₆ 294	13 ^{3/} 16 335	6 ⁵ /8 168	1 ^{11/} 16 43	^{11/} 16 17	3 ^{1/} 16 78	4 ⁵ /8 117
88730	2" ball, zinc plated* for disc brakes	6,000	S.A.E. 4	900 lbs.	m in.	7/ ₈ 22	3 76	1 ¹ / ₈ 29	5 ¹ /8 130	119/ ₁₆ 294	13 ^{3/} 16 335	6 ^{5/} 8 168	1 ^{11/} 16 43	^{11/} 16 17	3 ^{1/} 16 78	4 ⁵ /8
88740	2" ball, painted for disc brakes	6,000	S.A.E. 4	900 lbs	mm in.r	7/8 22	3 76	1 ¹ /8 29	5 ¹ /8 130	11 ⁹ /16 294	13 ³ /16 335	6 ⁵ /8 168	1 ¹¹ /16 43	^{11/16} 17	3 ¹ /16 78	4 ⁵ /8 117
83000	2" ball, painted, weld-on only	8,000	S.A.E. 4	1,000 lbs.	mm in.	7/8 22	3 76	1 ¹ /8 29	8 ¹ /8 206	14 ⁹ /16 370	16 ³ /16 411	6 ⁵ /8 168	1 ¹¹ /16 43	_	3 ¹ /16 78	4 ⁵ /8
83005	2" ball, painted, bolt-on	8,000	S.A.E. 4	1,000 lbs.	mm in.	7/ ₈ 22	3 76	1 ¹ /8 29	8 ^{1/} 8 206	14 ^{9/} 16 370	16 ^{3/} 16 411	6 ³ /4 171	1 ^{13/} 16 46	11/ ₁₆ 17	31/ ₁₆ 78	4 ⁵ /8
83010	2" ball, zinc-plated, bolt-on	8,000	S.A.E. 4	1,000 lbs.	mm i.	7/ ₈ 22	3 76	1 ¹ /8 29	8 ¹ /8 206	14 ^{9/} 16 370	16 ^{3/} 16 411	6 ³ /4 171	1 ^{13/} 16 46	^{11/} 16 17	3 ¹ / ₁₆ 78	4 ⁵ /8
80366	2" ball, zinc plated* bolt-on for disc brakes	8,000	S.A.E. 4	1,000 lbs.	i.	7/8	3	1 ¹ /8	8 ¹ /8	14 ⁹ /16	16 ³ /16	6 ⁵ /8	1 ¹¹ /16	_	3 ¹ /16 78	4 ⁵ /8
80360	2" ball, painted*, weld-on for disc brakes	8,000	S.A.E. 4	1,000 lbs.	mm in. m	7/8 22	3 76	1 ¹ /8 29	8 ¹ /8 206	14 ⁹ /16 370	16 ³ /16 411	6 ⁵ /8 168	43 1 ¹¹ /16 43	_	70 3 ¹ /16 78	4 ⁵ /8

* Bulk pack — all others are in individual cartons. **8,000 lb. weld on actuators do not have holes for bolt attachment (weld on ONLY).

* Compatible with Kodiak® and Reliable® Disc Brake Systems

Hydraulic Brake Actuators

TO ORDER: All kits available for field replacement are numbered. Parts illustrated but not numbered are not available for replacement. Contact the Service Department for further information.

NOTE: Save all attaching hardware when disassembling.

KIT #	DESCRIPTION	BEPI ACEMENT KIT INCLUDES
85830	SHOCK ABSORBER	4, 24-2 EA. 28-2 EA. 29-2 EA.
87478	САР	15
85842	SHOULDER BOLT	20, 21, 24-2 EA., 25, 26, 27
85844	RELEASE HANDLE	5, 13, 18, 22, 24-3 ea., 30
85849	STOP & SPRING ASSEMBLY	9, 11, 14, 24
85852	PUSH ROD ASSEMBLY	3, 7, 11, 14-5 ea., 16, 17, 24-2
		ea., 34, 8, 9
84258	BOOT	8
80777	ORIFICE-DISC BRAKE APPLICATIONS ONLY	31
85837	MASTER CYLINDER-PUSH ROD KIT	3, 6, 7, 8, 9, 11, 14-5 ea., 16,
	DRUM BRAKE APPLICATION	17, 24-2 ea. 34
85841	MASTER CYLINDER	6, 7, 14-4 ea.
	DRUM BRAKE APPLICATION	MUST ORDER 84258 SEPARATELY
85838	MASTER CYLINDER-PUSH ROD KIT	3, 6, 7, 8, 9. 11, 14-5 ea., 16,
	DISC BRAKE APPLICATION	17, 24-2 ea. 34, 15
85840	MASTER CYLINDER	6, 7, 14-4 ea.
	DISC BRAKE APPLICATION	MUST ORDER 84258 SEPARATELY
80376	SOLENOID KIT (DISC ONLY)	CYLINDER, GASKET, SCREW BACK UP
		SOLENOID ASSEMBLY
85271	6,000 LB DRUM BRAKE HOUSING KIT	7, 35, 36
85309	6,000 LB HOUSING KIT - DISC BRAKES	7, 35, 36



Surge Brake Actuators

6000 & 8000 LB RATING DRUM AND DISC

- Fits 3" channel, 2" ball Simple thumb latch
- Stamped ball clamp
- High gain braking
- Break-away cable • Painted or zinc-plated • Equalizer hitch
- Serviceability
- Bolt-on or weld-on
- compatible

Brake lock-out lever

 Disc actuators are available with electric back-up solenoid.

6000 & 8000 LB SPECIFICATIONS



- 4 S.A.E. rating
- 6000 LB. ACTUATOR 900 lb. static Max. tongue load
- 8000 LB. ACTUATOR 1000 lb. static Max. tongue load
- · Stamped channel width
- 2" Ball socket size
- Electro-deposited black paint or zinc plated
- corrosion protection • 200 - 1200 psi (650 psi avg.) hydraulic pressure
- 20 lb Shipping weight



BREAK-AWAY CABLE

- · The break-away cable is not replaceable as just a cable. It is only available with the push rod attached to it.
- The cable must be attached to the tow vehicle as near to center as possible. This will ensure that the cable will properly engage if the tow vehicle and trailer should separate in transit.
- DO NOT use the cable as a parking brake.
- · If breakaway cable is activated, it is important that it be positioned properly before actuator is used again. The cable should be re-inserted into the actuator so that the indicator bead on the cable rests against the cable spring stop on the top of the actuator.

IDENTIFICATION



SEQUENCE OF OPERATION:

Tow vehicle applies brakes Ψ

Ball socket pivots

Pushrod engages piston of master cylinder and shock absorber compresses providing some resistance T

Ψ

Master cylinder forces fluid through brake line

HIGH GAIN BRAKING

The Atwood actuator separates itself from the competition in its 'high gain' braking capability. The following information will help you understand this 'high gain' concept.

A =
$$2-1/2^{cc}$$
 A divided by C = ratio = 1.11 to 1.00
B¹ to B² = $2-1/4^{cc}$
C = movement of B1 as ball moves backward (B2) = 2

= movement of B1 as ball moves backward (B2) = 2 -1/4"

"High Gain" means that more force goes into master cylinder than applied at ball. As ball moves backwards, "C" becomes smaller and "A" stays the same. Ratio becomes larger, thus high gain in force.

Competitor actuators are linear and therefore have a 1:1 ratio.



LOCK OUT LEVER

- The lock-out lever cannot be added to an actuator not equipped with this device.
- NEVER alter the actuator such that the lock-out lever cannot move freely.



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INTERNET: http://www.atwoodmobile.com

Guides are only intended for use on Atwood[®] products by service technicians who have successfully completed Atwood[®] training. This guide should be used in conjunction with the appropriate Instruction Manual provided with the product and any applicable Industry Standards. This is not intended to be a complete list. Please direct questions concerning service of Atwood[®] products to 866-869-3118 before proceeding.

A WARNING PERSONAL INJURY AND/OR PRODUCT DAMAGE

 If any of the following conditions develop, the trailer must not be used until proper corrective action is taken.

CONDITION WITH SOLUTION

Squeaking, Clatter or Chucking

Lack of hitch ball lubrication	Lubricate with conventional automotive grease or commercial lubricant made for
	hitch balls
Binding linkage & pivotson the brake actuator	Oil linkage & pivots on brake actuator
Loose hitch	Inspect hitch & tighten
Actuator loose on trailer frame	Inspect brake actuator & tighten
Hitch ball worn or too small	Replace
Overheated brakes	Replace wheel bearing
Broken brake drum(s)	Replace brake drum(s) & check brake shoes
Low brake fluid level	Fill & bleed brakes, per IOM instructions
Worn out shock absorber	Replace
Partial application of breakaway cable	Fully release breakaway cable
Brakes improperly adjusted	Check brakes for adjustments per IOM
Broken brake return spring	Replace return spring
Seized actuator master cylinder	Replace/rebuild actuator master cylinder
Worn out brake shoes	Replace brake shoes & check brake drums
Leaky wheel cylinder	Replace/rebuild wheel cylinders & replace
	brake shoes. Clean drums & other hardware
Delesse Hendle Dess No.	t Class Fasily

Release Handle Does Not Close Easily

Oversized Dall	UNECK DAIL SIZE
Ball not fully inserted into socket .	Check for proper ball size. Check to see if
	tongue jack if fully retracted. Hold release
	handle open when inserting ball.
Foreign material in	Clean and lubricate
actuator socket	

Brake Overheating, Side Pull, Brakes Do Not Operate, Poor Brake Performance

Towing Vehicle Shaking	Back and Forth
Worn brake shoe(s)	Replace brake shoe(s)
Brake actuator frame damaged	Replace actuator
Broken/pinched brake lines	Replace
A damaged socket assembly	Replace actuator
A bend push rod in the	Replace shock absorber shock absorber
A bent shoulder bolt	Replace
Low hydraulic fluid level	.Fill & bleed brakes, per IOM instructions
Foreign material in brake unit	Clean thoroughly
	bleed system, per IOM instructions.
Seized wheel cylinder piston	Check and rebuild/replace wheel cylinder and
	brakes, per IOM instructions.
Leaking wheel cylinder	Check and replace wheel cylinder and bleed
Only one brake is applying	.Check brake adjustment, per IOM

Worn vehicle suspension	Replace shock absorber
Hitch not secure	. Tighten all bolts and nuts
Under-sized hitch ball	Ball should be 2" machined/forged type

Adjusting 7" & 10" Brakes

Trailer brakes should be adjusted after the first 1,000 miles of use and at least every 2,000 miles of use thereafter. in addition, trailer brakes should also be inspected for excessive wear, replace lining if necessary and adjusted at the beginning of each season or yearly. Wheel bearings and seals should be inspected and packed at this time.

Surge Brakes TROUBLE SHOOTING GUIDE

Effective: 8/22/06

Raise one trailer wheel at a time, chock opposite wheel to prevent trailer from rolling. Remove dust clip from adjusting slot at lower part of back side of brake assembly and insert brake adjusting tool. Adjust brake shoes out until wheels will not turn by moving end of adjusting tool toward top of brake. When this condition is felt, by rotating wheel, back-off (loosening) adjustment until wheel will just turn freely.



- Bleeding the brake system at the actuator using a power bleeder or a manual rod/hitch ball bleeder.
- On single axle trailers, bleed the brake that is furthest from the main hydraulic line first. This means that you would bleed brake 3 first on a single axle trailer and brake 1 first on a dual axle trailer with brakes on both axles.
- Use DOT 3 or 4 brake fluid.
- Synthetic silicone based brake fluid is not recommended. It has low water tolerance and decreases braking performance.
- Check: all hydraulic fittings are secure
 - fill and bleed brake system as follows:
- 1. Remove master cylinder filler cap and fill reservoir with DOT type 3 or 4 automotive brake fluid.
- Check all hydraulic line fittings & connections to make sure they are leak free.
- 3. At brake assembly, connect a bleeder hose to bleeder fitting on wheel cylinder and submerge free end in a container with brake fluid. DO NOT reuse brake fluid.

NOTE: Use power bleeder or bar with 2" diameter hitch ball attached (FIG 9). Do not use breakaway cable for purpose of bleeding brake system. If a power bleeder is used air pressure 35 PSI is most effective.

- NOTE: Bleed brakes on rear most axle furthest from the actuator first.
- 4. Loosen bleeder fitting at top of brake assembly.
- 5. Apply actuator (see FIG 9) and tighten bleeder fitting. Return actuator to forward position. Again, loosen bleeder valve one turn and apply actuator. Repeat this procedure until fluid expelled from bleeder hose is free of air bubbles. It is helpful to lower the trailer tongue to promote air bubble movement in the brake tubing. It is also helpful to tap gently along the brake tubing during brake bleeding to keep air bubbles from sticking to the inside of the brake tubing. During this procedure, master cylinder reservoir fluid level must be maintained at no less than 1/2 full and no more than 1/2" from top of reservoir.
- 6. When no air bubbles are visible, close bleeder valve securely and remove bleeder hose.
- 7. Repeat STEP 1-6 for remaining brake, then brakes on forward axle.
- If installation is tandem axle with brakes on both axle, repeat bleeding procedure on rear axle brakes for second time to assure positive purging of all air in system.
- 9. After bleeding has been completed, re-check fluid level in master cylinder.

IMPORTANT: DO NOT use brake fluid drained from brake system in refilling master cylinder. Brake fluid can be contaminated from the system.



Atwood Foundation Brakes

Foundation Brake Selection Guide

Part No	Description	Wheel-Hub	A		E	Pack		
		Drum Group +	in.	mm	in.	mm	Taux	
7" BRAK	ES							
85740	$7" \times 1^{3}/_{4}"$ left and right hand, painted	1,800*	4 B.C.	102	3	76	Box	
84181	7" x 1 ³ /4" left hand, painted	1,800*	4 B.C.	102	3	76	Bulk	
84186	$7^{"} \times 1^{3}/4^{"}$ right hand, painted	1,800*	4 B.C.	102	3	76	Bulk	
10" BRA	KES							
85735	10" x $2^{1}/4$ " left and right hand, painted	3,500	4 B.C.	102	3	76	Box	
83562	10" x $2^{1}/4$ " right hand, painted	3,500	4 B.C.	102	3	76	Bulk	
83572	10" x 2 ¹ /4" left hand, painted	3,500	4 B.C.	102	3	76	Bulk	
84195**	10" x $2^{1}/4^{"}$ left and right hand, zinc, dichromate coated	3,500	4 B.C.	102	3	76	Box	
84260	10" x $2^{1}/4^{"}$ left hand, zinc plated, dichromate coated	3,500	4 B.C.	102	3	76	Bulk	
84265	10" x $2^{1}/4^{"}$ right hand, zinc plated, dichromate coated	3,500	4 B.C.	102	3	76	Bulk	
12" BR/	12" BRAKES							
83958	12" x 2 ¹ /4" right hand, painted black	6,000	3.88 B.C.	98	_	—	Bulk	
83959	12" x 2 ¹ /4" left hand, painted black	6,000	3.88 B.C.	98	—	_	Bulk	
83960	12" x 2 ¹ /4" right hand, corrosion resistant silver	6,000	3.88 B.C.	98	_	_	Bulk	
83961	12" x $2^{1}/_{4}$ " left hand, corrosion resistant silver	6,000	3.88 B.C.	98	_	_	Bulk	

• 2,500 lbs. axle capacity when used with an integral cast hub and drum. **Packed in retail box.





Atwood Uni-Servo Brakes

			7″ BR	AKES			
$ \begin{array}{c} $	84210 1 1A 15 14 19861 5 6	NEW STYLE I (one axle onl (1) wheel cy (1) wheel cy (4) 5/16" - 1 (2) 5/16" - 1 Shoe & Linin (2) PRIMARY (2) SECONDAR	Wheel Cylinder Kit y) LINDER, R.H. LINDER, L.H 8 x 3/4" CAP SCREW 8 FLAT HEAD SCREW g Kit (one axle) SHOES WITH LINING Y SHOES WITH LINING	23400 18191 23401	8 9 7 13 17 17 10 12 11	(2) AD (2) SE (1) TO (1) TO (1) TO (4) SH Oust Cl djusti (1) NU (1) PI (1) AD	Kit (one axle) JUSTING SCREW SPRINGS CONDARY RETRACTOR SPRINGS RSION SPRING R.H. RSION SPRING L.H. OE HOLD DOWN SPRINGS ip ng Screw, Pivot Socket & sembly T YOT SOCKET JUSTING SCREW
10 11 12 10 00 10 10 10 10 10 10 10 10 10 10 10 1	9 9 9 9 9 9 9 9 9 9	21669	Wheel Cylinder Replacement Kit (axle)	1 0″ BR A	KES 14 (2)	ADJUST 21	TING SCREW SPRINGS (4) SHOE HOLD DOWN PINS
		6 6 19	 (1) WHEEL CYLINDER (1) WHEEL CYLINDER (4) 5/16" - 8 x 1/3 MOUNTING SCRE 	a, R.H. a, L.H. 2″ ws	18499	10 9	 (4) SHOE HOLD DOWN SPRINGS (8) SHOE HOLD DOWN WASHERS (2) Shoe Guide Plate
11 - 10 - 12 - 13		19602 12 13	 Kit (1 axle) (2) PRIMARY SHOES LINING (2) SECONDARY SHO WITH LINING 	with es	23401	15 & 16 17	Adjusting Screw, Pivot Socket & Nut Assembly (1) NUT AND SCREW (1) PIVOT SOCKET
8 8 8 8 8 8 8 8 9 10 11 11 11 11 11 11 11 11 11 11 11 11		23385 8	Brake Shoe Spring Hold Down Kit (1 a (4) primary and secondary ret springs	I & Axle) Ractor	18191	20 7	 (2) Dust Clip (2) Bleeder Nut - not available separately



Foundation Brakes



7" Foundation Brake



10" Foundation Brake



4" bolt center

Wheel Cylinde Return Springs Push Rod Primary Shoe & Linina Backing Plate Secondary Adjusting Screw Assembly Shoe & Lining

FEATURES

- These are uni-servo brakes. The piston must face forward on the trailer.
- These are not self-adjusting brakes. Brake shoes must be adjusted using a brake adjustment tool on the star wheel of the adjusting screw. This adjustment is covered later in this manual.
- All components are replaceable except the backing plate. If the backing plate is damaged, the entire brake cluster must be replaced.
- These brakes are interchangeable with the major brands of hydraulic brakes you find in the marketplace.
- Our brakes are not convertible to electric or electric over hydraulic.
- **SPECIFICATIONS**

Axle capacity Corrosion protection

7 INCH 1800 lbs.* electro-deposited black paint

10 INCH

3500 lbs. electro-deposited black paint or zincdichromate with stainless springs 10" x 2-1/4"

Dimensions

7" x 1-3/4" *Rated capacity is increased to 2500 lb. axle capacity when used with an integral cast iron hub and drum.

SEQUENCE OF OPERATION:

Fluid from master cylinder enters the wheel cylinder

Τ Piston of wheel cylinder extends and forces shoe to drum

Primary shoe engages drum

T

Secondary shoe engages drum

Piston should face forward on trailer axle. It is acceptable for piston to face downward but not recommended. NEVER position brake so that piston points upward.

The old wheel cylinder is not replaceable with the new style. The cut-out in the cylinder casting is different from old to new style brake. Refer to schematic on page 62.

The packing plates are not replaceable due to liability reasons. The entire brake cluster must be replaced in this situation.

EQUALIZER HITCH & SWAY CONTROL

An equalizer hitch may be used with the surge brake actuator. However, the following criteria must be closely followed. Failure to do so may reduce or prevent trailer braking.

Χ	Y"
(Chain length)	(Chain Hanger Mfg. location)
6-1/2″	3-5/8″
7-1/2″	4-3/16″
9″	5″
12-1/2″	5-7/8″

NOTE: There is NOT a sway control available that is compatible with the Atwood surge actuator. The sway controls that are available prevent safe and sufficient braking with our actuator.



PROPER TOWING CHECKLIST

- Inspect the brake fittings for leaks.
- ✓ Adjusted the brakes every 2000 miles (page 8).
- ✓ Lubricated all mechanical moving parts.
- ✓ Inspect the breakaway cable for any kinks.
- Verify that a one-piece 2" ball is being used and that it doesn't have any chips, dirt or hairline cracks.
- ~ Securely attached the safety chains to the trailer and tow vehicle.
- For proper braking, the trailer should set level when attached to the tow vehicle to produce a positive tongue load.
- Use DOT 3 brake fluid in the master cylinder and fill it between 1/2 full to 1/2" from the top of the cylinder reservoir.





Atwood Casters and Feet







82650, 82660

80260, 80261

80259, 80552, 84036 CASTERS AND FEET SELECTION GUIDE

E SUPPORT CAPACITY DEFINITION: The support capacity is the maximum vertical load the jack can support. *If jack is used with caster then the system capacity will be rated at 1,000 lb (the load carrying capacity of the caster).

Part No	Description	Support	Fits Jack		A	E	3	C =	I.D.	D =	0.D.	E			F	G	
ran NU.	Description	Capacity lbs.	RAM Sizes	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
80203	Duraplas caster, zinc plated	1,000	1 ³ /4" 0.D.	3 ³ /8	86	2	51	1 ³ /4	44	2	51	6	152	9	229	2	51
80259	Duraplas caster	1,000	1 ³ /4" 0.D.	3 ³ /8	86	2	51	1 ³ /4	44	2	51	6	152	9	229	2	51
80552	Duraplas caster	1,000	2" O.D.	3 ³ /8	86	2	51	2	51	2 ¹ /4	57	6	152	9	229	2	51
84036	Duraplas caster, painted, pin-on	1,000	2" O.D.	3 ³ /8	86	2	51	2	44	2 ¹ /4	57	6	152	9	229	2	51
80260	Steel foot	1,000	1 ³ /4" O.D.	5 ³ /8	137	4	102	1 ³ /4	44	2	51	2 ¹ /8	54	—	-		—
80261	Steel foot w/extension	1,000	1 ³ /4" O.D.	5 ³ /8	137	4	102	1 ³ /4	44	2	51	7 ³ /4	197	—	-		—
82650	Steel foot	6,000	2" O.D.	8	203	43/4	121	2	51	2 ¹ /4	57	2 ⁵ /8	67	—	-		—
82660	Steel foot w/extension	6,000	2" O.D.	8	203	43/4	121	2	51	2 ¹ /4	57	5 ¹ /2	140	8 ¹ /8	206	_	—
80521	Duraplas caster, OBSOLETE	1,000	1 ⁵ /8" O.D.	3 ³ /8	86	2	51	1 ⁵ /8	42	1 ⁷ /8	48	6	152	9	229	1 ¹ /2	38
83300	Duraplas caster, OBSOLETE	1,000	1 ⁵ /8" O.D.	3 ³ /8	86	2	51	1 ⁵ /8	42	1 ⁵ /8	42	6	152	9	229	2	51
82655	Steel foot, OBSOLETE	1,000	1 ⁵ /8" O.D.	5 ³ /8	137	4	102	1 ⁵ /8	42	1 ⁵ /8	42	21/8	54	—	_	_	—
82665	Steel foot w/extension, OBSOLETE	1,000	1 ⁵ /8" O.D.	5 ³ /8	137	4	102	1 ⁵ /8	42	1 ⁵ /8	42	7 ³ /4	197	—	_	_	—

Note: When a jack is used in conjunction with a caster, the caster limits the capacity of the jack caster system to 1,000 pounds.

Atwood Support Plates SUPPORT PLATES SELECTION GUIDE

Part No	Description	Rated	A		B	6	Hole Di	iameter		
Tantino.	Description	Capacity lbs.	in.	mm	in.	mm	in.	mm		
83480	Top Support Plate	—	6	152	31/2	89	2.30	58	A	o A
83670	Support Plate	_	8 ³ /4	222	31/2	89	2.28	58		
80263	Bottom Support Plate	1,000	8 ³ /4	222	3 ¹ /2	89	2.05	52	B	B
80570	Bottom Support Plate	—	8 ³ /4	222	3 ¹ /2	89	2.23	57	ter b	ter to
82740	Top Support Plate	_	10 ¹ /8	257	7 ³ /8	187	2.32	59	82740	22375
22375	Top Support Plate	5,000	10 ¹ /8	257	7 ³ /8	187	2.32	59		
83400	Bottom Support Plate	6,000	10 ¹ /4	260	3 ³ /8	86	2.32	59	A A	
83470	Bottom Support Plate	6,000	7 ³ /4	197	3 ³ /8	86	2.32	59		
83511	Bottom Support Plate	8,000	7 ³ /4	197	3 ³ /8	86	2.32	59	-B	B
82672	Bottom Support Plate	8,000	10 ¹ /4	260	3 ³ /8	86	2.32	59	80263, 80570,	82672, 83400,
84151	Bottom Support Plate	11,000	7 ³ /4	197	3 ³ /8	86	2.32	59	83480, 83670,	83470, 83511,
84161	Bottom Support Plate	11,000	10 ¹ /4	260	3 ³ /8	86	2.32	59		04131,84101

SideWind and Top Wind Jack Features sidewind vs topwind

Topwind and sidewind jacks are available. The topwind jack has the handle attached directly to the screw that protrudes through the top of the outer jack ram. The sidewind jack has a metal cap on the top of the outer jack ram. The handle comes out of the side of the top of the jack and pins to a vertical bevel gear located in the head of the jack.

FRAME ATTACHMENT

Jacks can attach to the frame of a trailer or apparatus in a several ways.

- Jacks with no brackets can be welded directly to the frame.
 An A-frame jack with a triangular flange attached allows the jack to be
- bolted to an A-frame coupler (additional support plates *must* be used).
- A U-bolt jack using two U-bolts wrapped around the jack allows for more flexibility where the jack can be mounted on the trailer frame.
- Snap ring swivel jacks are used primarily in the marine market. This jack attaches to a weld-on or bolt-on receiver bracket on the trailer and the jack attaches to it. The jack is to be swiveled parallel to the ground when the trailer is in tow.
- We have a line of tubular swivel jacks that are popular with the agricultural

market. A tube welded to the trailer frame mates with a tube mounted on the jack, allowing the jack to be swiveled parallel with the ground when the implement is in tow.

TRAVEL

Travel refers to the length that the inner ram of the jack can be extended from a fully retracted to a fully extended position. The travel on the sidewind and topwind jacks range from 8" - 15".

RATED CAPACITY

All Atwood jacks are dynamically rated opposed to statically rated. Dynamic capacity refers to the working capacity or maximum load that the jack can support for castering and easy lifting of a fully loaded trailer. The static or support capacity is the maximum vertical load that the jack can support. The weight ratings of our jacks are from 500 - 11,000 lbs.

FINISH

Most of our jacks are electro-statically painted with black enamel. Therefore, it can be used as is since it exceeds the A.S.T.M. 96 hour salt spray test. This paint process provides a very good prime coat. ACCESSORY ATTACHMENT

Both casters and feet are available for our screw jacks.



Jack Replacement Kits





GEAR	KITS				
ITEM#	DESCRIPTION	81410	25524	81480	
11/12	Bevel Gear, 15 Tooth		2		
11	Bevel Gear, 12 Tooth	1		1	
12	Bevel Gear, 16 Tooth			1	
12	Bevel Gear, 16 Tooth	1			
1	Roll Pin 1.25 x .15	1	1	1	
13	Roll Pin .81 x .23	1	1	1	
NS	IOM (not shown)	1	1	1	

HANDI	E KITS				
ITEM#	DESCRIPTION	82700	25526	83401	
6	Handle	1			
7	Handle		1	1	
1	Rivet .88 x .24	1			
1	Roll Pin 1.25 x .15		1		
10	Metal Bushing		1		
NS	IOM (not shown)	1			

CAP K	ITS					
ITEM#	DESCRIPTION	25525	84120	80456	80457	
8	Metal Cover	1	1			
8	Plastic Cap, Large			1		
8	Plastic Cap, Small				1	
9	Retaining Clip	1		1		
NS	IOM (not shown)	1	1			

MISCE	MISCELLANEOUS ITEMS											
ITEM#	DESCRIPTION											
2	5/8" Pin, Chain & Clip	85411										
2	7/8" Pin & Chain	85719										

BEARING & THRUST WASHER KITS													
ITEM#	DESCRIPTION	81415	81416	81417	81418	81419							
3	Thrust Bearing		1	1		1							
5	Thrust Bearing Washer	1	2	2	1								
14	Support Washer					1							
15	Cap Washer					1							
16	Thrust Washer				2								
17	Clutch Thrust Washer					1							
4	Felt Sleeve	1	1			1							

REPAIL	R KITS					
ITEM#	DESCRIPTION	80454	80455	80465		
8	Small Cap	1			1	
8	Large Cap		1	1		
12	Bevel Gear, 12 tooth	1				
11	Bevel Gear, 12 tooth	1				
11/12	Bevel Gear, 15 tooth		2	2		
7	Handle Assembly	1	1	1		
18	Thrust Plate	1	1	1		
4	Thrust Bearing	1		1		
3	Felt Sleeve	1		1		
5	Thrust Brg Washer	2	1	2		
16	Plastic Brg Washer	1	1			
21	Flat Washer		1	1		
20	Washer, 16 GA	1				
19	Bushing	1				
13	Plain Pin	1				
1	Drive Pin	1				
13	Roll Pin		1	1		
1	Grove Pin		1	1		
NS	IOM (not shown)	1	1	1		

Atwood A-Frame Jacks



A-FRAME JACK SELECTION GUIDE

		Support				I	1			R			п		F	-		-	Outor D	iameter
Part No.	Finish	Capacity	W	ND	retra	cted	exten	ded								-		1	- Outer D	
	Paint fast-travel for	103.	TOP	Side	in.	mm	in.	mm	in.	mm	in.	mm	ın.	mm	in.	mm	in.	mm	Inner ram	housing
84033	pin-on caster (c)	750		•	2.1	53	16.1	409	18.2	462	4.0	102	6.4	163	6.0	152	1.0	25	2.00	2.20
80016	Zinc Plated (c)	1,000	•		1.6	41	13.7	348	13.3	338	3.8	97	5.8	147	5.3	135	—	—	1.77	2.00
80156	Zinc Plated (c)	1,000	•		2.1	53	17.3	439	15.5	394	4.5	114	5.8	147	5.3	135	—	—	1.77	2.00
80009	Paint (c)	1,000	•		2.6	66	17.7	450	13.6	345	6.0	152	5.8	147	5.3	135	—	—	1.77	2.00
80022	Zinc Plated (c)	1,000	•		2.6	66	17.7	450	13.6	345	6.0	152	5.8	147	5.3	135	—	—	1.77	2.00
80000	Paint (c)	1,000		٠	3.0	76	18.4	467	15.7	399	6.0	152	6.3	160	6.0	152	1.3	33	1.77	2.00
80160	Galvanized (c)	1,000		•	3.0	76	18.4	467	15.7	399	6.0	152	6.3	160	6.0	152	1.3	33	1.77	2.00
80265	Paint (c)	1,000		٠	3.0	76	18.4	467	17.2	437	4.5	114	6.3	160	6.0	152	1.3	33	1.77	2.00
80405	Painted (c, e)	2,000*	•		2.0	51	17.1	434	10.2	259	7.0	178	5.8	147	5.3	135	—	—	2.00	2.20
80406	Zinc Plated (c,e)	2,000*	•		2.0	51	17.1	434	10.2	259	7.0	178	5.8	147	5.3	135	—	—	2.00	2.20
84034	Paint pin-on caster (c)	2,000*	•		2.051	17.1	434	16.2	411	4.0	102	5.8	147	5.3	135	_	_	2.00	2.20	
80401	Paint (c)	2,000*	•		2.0	51	17.1	434	13.2	335	7.0	178	5.8	147	5.3	135	_	_	2.00	2.20
80402	Paint pin-on caster (c)	2,000*	•		2.0	51	17.1	434	13.2	335	7.0	178	5.8	147	5.3	135	_	-	2.00	2.20
87510	Paint (c)	2,000*		٠	1.4	36	15.4	391	16.5	419	7.0	178	7.1	180	7.5	191	1.7	43	2.00	2.20
80391	Paint (a, d)	5,000	•		1.4	36	15.5	394	10.7	272	9.5	241	5.8	147	5.3	135	_	_	2.00	2.20
83391	Paint (a,d)	6,000	•		0.3	8	10.9	277	15.0	381	2.2	56	9.2	234	1.6	41	_	_	2.00	2.20
82642	Paint (a,d)	8,000	•		1.3	33	11.6	295	15.9	404	0.6	15	9.2	234	1.6	41	_	_	2.00	2.25
82721	Paint (a,b,d)	8,000	•		1.5	38	16.3	414	19.5	495	1.0	25	9.2	234	1.6	41	_	_	2.00	2.25
84146	Paint (a,d)	11,000	•		0.3	8	10.6	269	16.9	429	0.6	15	9.2	234	1.6	41	_	_	2.00	2.25
80250	Painted (c) OBSOLETE	1,000	•		85/8	218	233/4	603	135/8	345	63/8	162	51/4	133	6	152			15/8	17/8
80340	Painted (c) OBSOLETE	1,000		٠	85/8	218	24	610	143/4	375	65/8	168	65/8	168	6	152			15/8	17/8
80341	Galvanized (c) OBSOLETE	1,000		٠	85/8	218	24	610	143/4	375	65/8	168	65/8	168	6	152	1		15/8	17/8
81041	Painted (c) OBSOLETE	2,000*		٠	91/8	232	231/8	587	141/4	361	65/8	168	65/8	168	7	178	1		2	21/4
83270	Zinc Plated (c) OBSOLETE	1,000	•		51/2	138	175/8	446	131/8	334	63/8	162	51/2	140	33/4	95			15/8	17/8
83271	Zinc Plated (c) OBSOLETE	1,000	•		51/2	138	175/8	446	131/8	334	63/8	162	51/2	140	61/4	159			15/8	17/8
83275	Painted (c) OBSOLETE	1,000	•		6	152	181/8	460	13	331	63/8	162	51/2	140	33/4	95			1 5/8	17/8
84155	Zinc Plated (c) OBSOLETE	1,000	•		61/2	163	185/8	471	121/8	309	63/8	162	51/4	133	43/4	121			1 5/8	17/8
84223	Painted (c OBSOLETE	2,000		٠	81/2	216	191/8	486	11	279	63/8	162	65/8	168	71/2	190			2	21/4

SUPPORT CAPACITY DEFINITION: The support capacity is the maximum vertical load the jack can support. "If jack is used with caster then the system capacity will be rated at 1,000 lb (the load carrying capacity of the caster). (a) Designed for Mobile Home application (b) Double wall ram (c) Caster/Foot must be ordered separately (d) Bottom mounted jack requires special bottom mounted attachment plate.



Atwood A-Frame Jacks - CONTINUED A-FRAME JACK REPAIR KITS

			-						
Part No.	Handle	Handle & Rivet	Gear	Thrust Bearing	Repair	Cap	Caster	Short Foot	Long Foot
84033	25526	x	81410	81416	х	84120	80552	82650	82660
80016	82700	Х	Х	81416	Х	Х	80203	80260	80261
80156	82700	Х	Х	81416	Х	Х	80203	80260	80261
80009	82700	Х	Х	81416	х	х	80259	80260	80261
80022	82700	Х	Х	81416	х	х	80203	80260	80261
80000	Х	Х	Х	х	80454*	80457	80259	80260	80261
80160	х	Х	Х	х	80454*	80457	80203	80260	80261
80265	х	Х	Х	х	80454*	80457	80259	80260	80261
84034	82700	Х	Х	81416	х	х	80552	82650	82660
80401	82700	Х	Х	81416	х	х	80552	82650	82660
80402	82700	Х	Х	81416	х	х	84036	Х	Х
87510	х	Х	Х	х	80465*	80456	80552	82650	82660
80391	82700	Х	Х	81417	х	х	х	Х	Х
83391	N/A	85806/85656	х	81417	х	х	80552	82650	82660
82642	N/A	87139/85656	Х	81417	х	х	80552	82650	82660
82721	N/A	87139/85656	Х	81417	Х	Х	80552	82650	82660
84146	N/A	87108/85656	х	81417	х	х	80552	82650	82660
80250	82700	Х	25524	81416	Х	Х	NLA	82655	82665
80340	25526	Х	25524	81416	Х	25525	NLA	82655	82665
80341	25526	Х	81410	81418x2	Х	25525	NLA	82655	82665
81041	25526	Х	Х	81416	Х	84120	80552	82650	82660
83270	82700	Х	Х	81418	Х	Х	NLA	82655	82665
83271	82700	Х	Х	81418	Х	Х	NLA	82655	82665
83275	82700	Х	Х	81418	Х	Х	NLA	82655	82665
84155	82700	Х	Х	81418	Х	Х	NLA	82655	82665
84223	25526	Х	81410	81418	Х	84120	80552	82650	82660

* Includes handle

Atwood Specialty Jacks







80325-0BS

80134 80315-0BS

SPECIALTY JACK SELECTION GUIDE

		Support			ŀ	1								-		Outor Die	matar
Part No.	Description	Capacity	Side Wind	retra	cted	exter	ded	В)	Ŭ						Outer Dia	imeter
		lbs.		in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	Inner ram	housing
80134	Universal drive	500	•	1.9	48	15.6	396	18.6	472	4.9	125	0.8	20	-	-	1.77	2.00
80096	Shaft drive	1,000	•	1.9	48	15.6	396	18.6	472	5.6	142	0.8	20	-	-	1.77	2.00
80117	Pin on handle	1,000	•	1.9	48	10.2	259	13.0	330	4.8	122	6.0	152	0.8	20	1.77	2.00
80109	Swivel handle	1,000	•	1.9	48	9.9	251	5.98	152	7.0	178	4.7	119	6.0	152	1.77	2.00
80123	Swivel handle	1,000	•	1.9	48	9.9	251	7.04	179	5.9	150	4.7	119	6.0	152	1.77	2.00
80150	Shaft drive	1,000	•	0.7	18	4.9	124	8.54	217	3.6	91	1.3	33	-	-	1.77	2.00
81459	Shaft drive	2,000	•	2.3	58	16.3	414	21.6	549	5.6	142	0.8	20	-	-	2.00	2.26
80315	Universal drive - OBSOLETE	500	٠	1.9	48	15.6	396	18.6	472	4.9	125	0.8	20	-	-	1.62	1.87
80325	Shaft drive - OBSOLETE	1,000	٠	1.9	48	15.6	396	18.6	472	5.6	142	0.8	20	-	-	1.62	1.87

SUPPORT CAPACITY DEFINITION: The support capacity is the maximum vertical load the jack can support.

SPECIALTY JACK REPAIR KITS

Part No.	Handle & Pin	Gear	Bearing	Repair	Cap	Caster	Short Foot	Long Foot
80134	х	25524	81418	х	25525	80259	80260	80261
80096	Х	25524	81418	х	25525	80259	80260	80261
80117	80317/17931	25524	81418	х	25525	Х	Х	Х
80109	87362/17931	25524	81418	х	25525	Х	Х	Х
80123	87362/17931	25524	81418	х	25525	х	х	Х
80150	Х	Х	х	80455	80457	х	х	Х
81459	Х	81410	81518	х	84120	80552	82650	82660
80315	Х	25524	81418	Х	25525	NLA	82655	82665
80325	Х	25524	81418	Х	25525	NLA	82655	82665



Jack Screws





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B È Ą 81141





JACK SCREW SELECTION GUIDE

SUPPORT CAPACITY DEFINITION:

-C-

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The support capacity is the maximum vertical load the jack can support. *If jack is used with caster then the system capacity will be rated at 1,000 lb (the load carrying capacity of the caster).

				ND			A			2	C		Г)			Outer Dia	meter
Part No.	Finish	Support		ND	retr	acted	exte	ended			Ů					-	Outer Dia	
		capacity	Тор	Side	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	Inner ram	housing
80188	Unpainted	1,000	•		2.0	51	10.5	267	11.0	279	5.8	147	5.3	135	—	—	1.8	2.0
80167	Paint	1,000	•		2.1	53	16.0	406	19.7	500	5.8	147	5.3	135	—	_	1.8	2.0
80177	Paint	1,000	•		2.0	51	10.4	264	11.0	279	5.8	147	5.3	135	—	—	1.8	2.0
80029	Zinc	1,000	•		1.6	41	13.2	335	17.0	432	5.8	147	5.3	135	—	—	1.8	2.0
80036	Paint	1,000	•		2.1	53	13.7	348	17.0	432	5.8	147	5.3	135	—	—	1.8	2.0
80126	Paint	1,000		•	2.3	58	16.0	406	19.5	495	6.3	160	6.0	152	1.3	33	1.8	2.0
80172	Paint	1,000		•	2.2	56	10.5	267	13.1	333	6.3	160	6.0	152	1.3	33	1.8	2.0
82522	Unpainted	2,000	•		1.0	25	11.0	279	14.2	361	5.8	147	5.3	135	6.7	170	2.0	2.2
81141	Paint	2,000*		•	2.3	58	16.3	414	21.7	551	6.4	163	6.0	152	1.0	25	2.0	2.2
80380	Unpainted	5,000	•		1.4	36	15.5	394	20.3	516	5.8	147	5.3	135	_	—	2.0	2.2
80220	Painted-OBSOLETE	1,000	•		213/4	553	355/8	905	195/8	499	63/8	161	51/4	133			15/8	17/8
80230	Painted-OBSOLETE	1,000	•		19	483	303/4	780	17	431	63/8	161	51/4	133			1 5/8	17/8
80239	Painted-OBSOLETE	1,000	•		13	330	21 1/2	545	123/8	314	63/8	161	51/4	133			1 5/8	17/8
80240	Painted-OBSOLETE	1,000	•		13	330	211/2	545	11	280	63/8	161	51/4	133			1 5/8	17/8
80311	Painted-OBSOLETE	1,000		•	203/8	519	341/8	867	185/8	472	65/8	167	65/8	167			1 5/8	17/8
80321	Painted-OBSOLETE	1,000		•	14	355	221/4	566	121/8	310	65/8	167	65/8	167			15/8	17/8
81310	Painted-OBSOLETE	1,000	٠		185/8	472	303/4	780	17	431	63/8	161	51/4	133			15/8	17/8

JACK SCREW REPAIR KITS

Part No.	Handle	Gear	Bearing	Repair	Cap	Caster	Short Foot	Long Foot
80188	82700	х	81416	х	х	80259	80260	80261
80167	82700	х	81416	х	х	80259	80260	80261
80177	82700	х	81416	х	х	80259	80260	80261
80029	82700	х	81418	х	х	80259	80260	80261
80036	82700	х	81418	х	х	80259	80260	80261
80126	х	х	х	80454	80457	80259	80260	80261
80172	х	х	х	80454	80457	80259	80260	80261
82522	82700	х	81416	х	х	х	х	х
81141	25526	81480	81416	х	84120	80552	82650	82660
80380	82700	х	81417	х	х	80552	82650	82660
80220	82700	Х	81416	Х	Х	NLA	82655	82665
80230	82700	Х	81418	Х	Х	NLA	82655	82665
80239	82700	Х	81416	Х	Х	NLA	82655	82665
80240	82700	Х	81416	Х	Х	NLA	82655	82665
80311	25526	25524	81418	Х	25525	NLA	82655	82665
80321	25526	25524	81418	Х	25525	NLA	82655	82665
81310	82700	Х	81418	Х	Х	NLA	82655	82665

Atwood Square Tube Jacks









80407

SQUARE TUBE JACK SELECTION GUIDE

Support A C D Ε В F Outer Dimension Part Capacity WIND retracted extended Description No. lbs. Top Side in. mm in mm in mm in. mm in. mm in. mm in. mm Inner ram housing 80407 With tube swivel bracket 3,500 1 25.4 16 406 14.38 365 10.25 260 5.8 147 9.0 229 1.0 25.4 2.25 2.5 • 80408 Without bracket 3,500 1 25.4 16 406 24.63 627 5.8 147 9.0 229 1.0 25.4 2.25 2.5 . 80409 With tube swivel bracket 5,000 25.4 17 432 14.38 210 127 2.25 2.5 1 365 8.25 5.0 5.5 140 • 17 22.63 127 2.25 2.5 80410 Without bracket 5.000 1 25.4 432 575 5.0 5.5 140 .

SQUARE TUBE JACK REPAIR KITS

Part No.	Handle & Pin	Handle	Gear	Thrust Bearing	Cap	Pin & Chain
80407	83401/70229	х	75029	81419	71416	85719
80408	83401/70229	Х	75029	81419	71416	Х
80409	х	82700	х	81415	х	85719
80410	Х	82700	Х	81415	х	Х

Atwood Bolt Swivel Jacks





84025, 84026 OBS

84015, 84020

FEATURES

SPECIFICATIONS Working Capacity Supporting Capacity Finish Travel (extension) Frame Brackets

Screw and Nut Locking Mechanism Bevel Gears **STANDARD** 500 lbs., 1000 lb. 800 lbs., 1000 lb. Zinc Plated 8" - 14" weld-on, bolt on adjustable bolt-on 8 pitch 1/2" dia. singe pin 15 and 15 tooth (500 lbs.) 15 and 15 tooth (1000 lb.)

PRO TOW

750 lbs. 1000 lb. Zinc Plated 11-1/2" weld-on adjustable bolt-on 6 pitch 1/2" dia. single pin 15 and 15 tooth (750 lbs.)

The support capacity is the maximum

vertical load the jack can support.

BOLT SWIVEL JACK REPAIR KITS

Part No.	Handle	Gear	Thrust Bearing	Cap
84015	25526	25524	81416	84120
84020	25526	25524	81416	84120
84025	25526	25524	81416	84120
84026	25526	25524	81416	84120

* Packed individually in retail carton.

CAPACITY DEFINITION: The working, or work, capacity is the maximum load that the jack can support for castering and easy lifting of a fully loaded trailer.

BOLT SWIVEL JACKS SELECTION GUIDE

The supporting, or support, support, support, support, support, support, support, support									pport.										
		Work	Sunnort	unnort		Α								,			E		
_		Capacity	Capacity	ity Side	Side	retra	acted	exte	nded		В			L 1	,	E		г	
Part No.	Finish	lbs.	lbs.	Wind	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	
84015	Zinc plated, bolt on bracket	750	1000	•	7.1	180	18.6	472	16.9	429	6.1	155	1.0	25	6.4	163	6.0	152	
84020*	Zinc plated, bolt on bracket	750	1000	•	7.1	180	18.6	472	16.9	429	6.1	155	1.0	25	6.4	163	6.0	152	
84025	Zinc plated, weld-on bracket	750	1000	•	7.1	180	18.6	472	16.9	429	6.1	155	1.0	25	6.4	163	6.0	152	
84026	Paint, weld-on bracket	750	1000	•	7.1	180	18.6	472	16.9	429	6.1	155	1.0	25	6.4	163	6.0	152	

OBS

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Atwood Implement Swivel Jacks



IMPLEMENT SWIVEL JACK REPAIR KITS

Part No.	Handle	Gear	Bearing	Cap	Pin & Chain
80459	82700	х	81416	х	85411
81264	82700	х	81416	х	85411
81353	82700	х	81416	х	85411
82340	82700	х	81416	х	85411
82332	25526	81410	81416	84120	85411
82333	25526	81410	81416	84120	85411
82471	82700	х	81417	х	85719
80522	82700	х	81416	х	х
80523	82700	х	81416	х	х
80518	82700	х	81416	х	х
80519	82700	х	81416	х	х
80273	82700	Х	81416	Х	Х
80294	82700	Х	81416	х	х
80452	82700	Х	81416	х	х
80453	82700	Х	81416	Х	Х



TURIUAR MOUNT RRACKETS



85411 Pin and Lanyard Kit

86493 Pin and Lanyard Kit

1000									
Part	Part Description		4	I.	D.	0.	D.	PIN	SIZE
No.	Description	in.	mm	in.	mm	in.	mm	in.	mm
81271	Unpainted, female, weld-on receiver bracket for 2,000 lb. tubular mount jacks	2.5	64	_	_	2	51	.63	16
82500	Unpainted, female, weld-on receiver bracket for 5,000 lb. tubular mount jacks	3.5	89	2.5	64	3	76	.88	22





Atwood Retaining Ring Swivel Jacks

RETAINING RING & DOUBLE LOCK PIN Swivel Jack Repair Kits

Part No.	Handle	Gear	Bearing	Repair	Cap
80041	82700	х	81416	х	х
80042	82700	х	81416	х	х
80043	82700	х	81416	х	х
80149	х	х	х	80454	80457
80132	х	х	х	80454	80455
87535	х	х	х	80454	80457
80179	х	х	х	80465	80456
80124	х	х	х	80465	80456
80057	х	х	х	80465	80456
87761	х	х	х	80455	80456
87743	х	х	х	80455	80456
87690	х	х	х	80455	80456
80302	82700	Х	81416	Х	Х
81413	25526	25524	81418	Х	25525
83171	25526	25524	81416	Х	84120
84200	25526	25524	81418	Х	25525
84205	25526	25524	81416	Х	84120
84250	25526	25524	81416	Х	84120
84255	25526	25524	81418	Х	25525
84290	82700	Х	81416	Х	Х
80373	25526	25524	81418	Х	25525



RETAINING RING SWIVEL JACKS WITH CASTER SELECTION GUIDE

		Work	Sunnort					A					•				-		-
Part	Description	Capacity	Capacity	Top	Side	retra	cted	exten	ded		5 				, 		<u> </u>		r
NU.	Description	IDS	IDS.	winu	willu	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
80041	Retail package w/ appropriate bracket	500	800	•		7.4	188	15.9	404	6.1	155	5.3	135	5.8	147	5.3	135	-	-
80042	Bulk w/ bolt-on bracket	500	800	•		7.4	188	15.9	404	6.1	155	5.3	135	5.8	147	5.3	135	-	-
80043	Bulk, no bracket	500	800	•		7.4	188	15.9	404	6.1	155	5.3	135	5.8	147	5.3	135	-	—
80149	Retail package w/ appropriate bracket	500	800		•	7.8	198	18.1	460	8.7	221	5.8	147	6.3	160	6.8	173	1.3	33
80132	Bulk w/ bolt-on bracket	500	800		•	7.8	198	18.1	460	8.7	221	5.8	147	6.3	160	6.8	173	1.3	33
87535	Bulk, no bracket	500	800		•	7.8	198	18.1	460	8.7	221	5.8	147	6.3	160	6.8	173	1.3	33
80179	Retail package w/ appropriate bracket	1,000	1,000		•	7.3	185	21.4	544	17.4	442	4.0	102	6.3	160	6.8	173	1.7	43
80124	Bulk w/ bolt-on bracket	1,000	1,000		•	7.3	185	21.4	544	17.4	442	4.0	102	6.3	160	6.8	173	1.7	43
80057	Bulk, no bracket	1,000	1,000		٠	7.3	185	21.4	544	17.4	442	4.0	102	6.3	160	6.8	173	1.7	43
87761	Retail package w/ appropriate bracket	1,000	1,200		•	7.2	183	17	432	11.7	297	5.8	147	6.3	160	6.8	173	1.7	43
87743	Bulk w/ bolt-on bracket	1,000	1,200		•	7.2	183	17	432	11.7	297	5.8	147	6.3	160	6.8	173	1.7	43
87690	Bulk, no bracket	1,000	1,200		•	7.2	183	17	432	11.7	297	5.8	147	6.3	160	6.8	173	1.7	43
80302	Zinc plated, with caster	500	800	•		127/8	327	21 3/8	543	6	152	63/8	162	51/2	140	63/4	172	OBSO	LETE
81413	Zinc plated, w/ caster	500	800		٠	127/8	327	23	584	95/8	244	65/8	168	65/8	168	63/4	172	OBSO	LETE
83171	Zinc plated, w/ caster	1,000	1,000		٠	111/4	286	253/8	644	155/8	398	65/8	168	65/8	168	63/4	172	OBSO	LETE
84200	Zinc plated, w/ caster*	500	800		٠	127/8	327	23	584	95/8	244	65/8	168	65/8	168	63/4	172	OBSO	LETE
84205	Zinc plated, w/ caster*	1,000	1,000		•	111/4	286	253/8	644	155/8	398	65/8	168	65/8	168	63/4	172	OBSO	LETE
84250	Zinc plated, w/ caster	1,000	1,000		•	111/4	286	253/8	644	155/8	398	65/8	168	65/8	168	63/4	172	OBSO	LETE
84255	Zinc plated, w/ caster	500	800		•	127/8	327	23	584	95/8	244	65/8	168	65/8	168	63/4	172	OBSO	LETE
84290	Zinc plated, w/ caster*	500	800	•		127/8	327	21 3/8	543	6	152	63/8	162	51/2	140	63/4	172	OBSO	LETE

84200, 84205, 84250, 84255

Note: All Atwood retaining ring swivel jacks must use Atwood mounting brackets.

CAPACITY DEFINITION: The working, or work, capacity is the maximum load that the jack can support for castering and easy lifting of a fully loaded trailer. The supporting, or support, capacity is the maximum vertical load that the jack can support.



1120 North Main Street • Elkhart, IN 46514 PHONE: 574•264•2131 FAX: 574•262•2550 INTERNET: http://www.atwoodmobile.com Manual Tongue Jacks TROUBLE SHOOTING GUIDE

Effective: 7/9/98

Guides are only intended for use on Atwood® products by service technicians who have successfully completed Atwood® training. This guide should be used in conjunction with the appropriate Instruction Manual provided with the product and any applicable Industry Standards. This is not intended to be a complete list. Please direct questions concerning service of Atwood® products to 866-869-3118 before proceeding.



PERSONAL INJURY AND/OR PRODUCT DAMAGE

 If any of the following conditions develop, the trailer must not be used until proper corrective action is taken.

CONDITION WITH SOLUTIONS

Handle Turns and Jack Leg	Does Not Move
Stripped bevel gears	Replace gears
Gear pin missing	Replace pin
Stripped acme nut	Replace jack

Difficult to Crank

Too much tongue weight	Verify weight and determine if
lack mounted at angle	Reinstall jack perfectly vertical
Dry gears	Grease gears
Dirt in gears	Clean and grease gears
Worn ball socket	Replace coupler
Broken teeth on bevel gears	Replace gears
Binding thrust bearing	Replace bearing
Stripped acme nut	Replace jack
Worn worm gear	Replace jack
Bent inner ram	Replace jack

Jack Leg Seizes

Stripped acme nut	Replace jack
Stripped worm gear	Replace jack
Obstruction in gears	Clean and grease gears
Bent inner ram	Replace jack

Atwood Stabilizer Jacks

STABILIZER JACK SELECTION GUIDE

	_		Work	Support	Retra	acted	Exte	nded
Model No.	Part No.	Painted	capacity	capacity	in.	cm	in.	cm
Single Jack-standard	82301	•	650lbs	1,000lbs	11.5	29.21	17.75	45.09
Single Jack-long	82297	•	650lbs	1,000lbs	15.5	39.37	21.75	55.25
Single Jack-standard	82306		650lbs	1,000lbs	11.5	29.21	17.75	45.09
Single Jack-standard	82307*	• 650lbs 1,000lbs 11.5 29.21 17.75 45.09						
Set of 2 Jacks	82302	(2) of #82301 and (1) #80480 jack rod						
Set of 2 Jacks	82298	(2) of #82297 and (1) #80480 jack rod						
Jack Rod	80480	Indiv	idual Jack/	Rod				



* with u-bolt and welded bracket

Pull on the leg until the tab disengages from the slot. Swing the leg down and snap into position.

Atwood Telescoping Stabilizers

TELESCOPING STABILIZER SELECTION GUIDE

Part No	Description	Retra	Retracted		ıded	Maximum Vertical Load	Weight
Tart No.	Description	in.	mm	in.	mm	lbs.	lbs.
480920	2" Outer Tube	20	508	26	660	3,000	5
82215	2 ¹ / ₂ " Outer Tube	30	762	45	1143	6,000	14

Weld the outer housing to a structural attachment point on the trailer.







Power Jack TROUBLE SHOOTING GUIDE

1120 North Main Street • Elkhart, IN 46514 PHONE: 574•264•2131 FAX: 574•262•2550 INTERNET: http://www.atwoodmobile.com

Effective: 9/11/06

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A WARNING PERSONAL INJURY AND/OR PRODUCT DAMAGE

 If any of the following conditions develop, the trailer must not be used until proper corrective action is taken.

CONDITION WITH SOLUTIONS

MOTOR WILL NOT OPERATE

No or low voltage	Check battery & electrical connections.
	Must have minimum of 10 VDC
Jack flange not making good contact to provide adequate ground with coupler surface	Clean paint or dirt from coupler frame
Blown fuse	Replace with 30 amp AWG fuse
Loose wires on ON/OFF switch	Secure wire connections
ON/OFF switch faulty	Replace switch
Motor faulty	Replace motor

POOR GROUND

WHEN BUTTON IS PRESSED ON JACK -	
Jack doesn't operate	Inspect motor mounting bolt for Loctite®.
Jack operates only partially up	If Loctite [®] found, replace with new 1/4-20
or down	x 3" screw and two lock washers. If bolt
Jack runs intermittently	unavailable, clean present bolt and hole
	with wire buffing wheel. Inspect bolt

hole. If dirty, clean with a 1/4-20 tap. MOTOR CLUTCH ENGAGES

Normal if jack leg is at fullyNone, but let go of switch when you retracted or extended position the clutch Worn worm gear Replace jack ram Dirty inner ram tube Clean ram tube and coat with light of silicon spray Bent inner ram Replace inner ram Clutch faulty Replace motor Jack at angle Secure mounting bolts and ensure support plate is used. Excessive tongue weights Determine if jack is adequate for too weight.		
Worn worm gear Replace jack ram Dirty inner ram tube Clean ram tube and coat with light of silicon spray Bent inner ram Replace inner ram Clutch faulty Replace motor Jack at angle Secure mounting bolts and ensure support plate is used. Excessive tongue weights Determine if jack is adequate for ton weight.	Normal if jack leg is at fully retracted or extended position	None, but let go of switch when you hear the clutch
Dirty inner ram tube Clean ram tube and coat with light of silicon spray Bent inner ram Replace inner ram Clutch faulty Replace motor Jack at angle Secure mounting bolts and ensure support plate is used. Excessive tongue weights Excessive tongue weights Determine if jack is adequate for ton weight.	Worn worm gear	Replace jack ram
Bent inner ram	Dirty inner ram tube	Clean ram tube and coat with light coat of silicon spray
Clutch faultyReplace motor Jack at angleSecure mounting bolts and ensure support plate is used. Excessive tongue weightsDetermine if jack is adequate for too weight.	Bent inner ram	Replace inner ram
Jack at angleSecure mounting bolts and ensure support plate is used. Excessive tongue weightsDetermine if jack is adequate for to weight.	Clutch faulty	Replace motor
Excessive tongue weightsDetermine if jack is adequate for to weight.	Jack at angle	Secure mounting bolts and ensure a support plate is used.
	Excessive tongue weights	Determine if jack is adequate for tongue weight.

UTILITY LIGHT DOES NOT WORK

Loose wires on the ON/OFFSecure wire connection switch Bad light bulbReplace bulb

AMP DRAW

IMPORTANT CAUTION - If equalizer bars are attached to the tow vehicle and the trailer while operating the power tongue jack, you may experience the motor clutching the moment the jack sees load. This will occur because you are lifting both the tongue of the trailer and the rear of the tow vehicle. The 1500 lb. and 2500 lb. acme screw jacks cannot lift this excessive weight. To overcome this excessive weight, you should upgrade to the 3500 lb. power jack. The ball screw mechanism utilized in this jack should allow you to lift this load.

Atwood Power & Marine Power Jacks



POWER JACK SELECTION GUIDE

POWER JACK													
Dort No.	Description	Boto of Troval	A		В		Retra	acted	Extended		Cap	acity	Coupler Ball Size
Part NO.	Description	hate of fraver	in.	mm	in.	mm	in.	mm	in.	mm	lbs.	kg	in.
80236	Lightweight Power Jack	10" per minute	10 ¹ /8	257.2	14 ³ ⁄4	374.7	24 ⁷ /8	631.8	39 ¹ /4	997	1,500	680	2
80511	Standard Power Jack	10" per minute	10 ¹ /8	257.2	14 ³ ⁄4	374.7	24 ⁷ /8	631.8	39 ¹ /4	997	2,500	1134	2 ⁵ /16
80515	Deluxe Power Jack	10" per minute	10 ¹ /8	257.2	14 ³ ⁄4	374.7	24 ⁷ /8	631.8	39 ¹ /4	997	2,500	1134	2 ⁵ /16
80530	Heavy Duty Power Jack	15" per minute	10 ¹ /8	257.2	14 ³ /4	374.7	24 ⁷ /8	631.8	39 ¹ /4	997	3,500	1588	2 ⁵ /16
80509	Short Jack	10" per minute	10	254.0	9 ⁷ /8	251.0	19 ⁷ /8	505.0	31 ⁵ /16	795	2,500	1134	2 ⁵ /16
80524	Marine Jack	10" per minute	14 ³ ⁄4	374.7	10 ¹ /8	257.2	24 ⁷ /8	631.8	391/4	997	1,000	1134	2 ⁵ /16

SHIPPING SPECIFICATIONS—POWER JACKS

Product	Shippi	Shipping Wt.		Length	Carton	Width	Carton Depth	
	lbs.	kg	in.	mm	in.	mm	in.	mm
Lightweight-boxed	27	12.2	37	940	8	203	8	203
Standard Jack-boxed	27	12.2	37	940	8	203	8	203
Deluxe Jack-boxed	27	12.2	37	940	8	203	8	203
Heavy Duty-boxed	29	13.2	37	940	8	203	8	203
Short-boxed	27	12.2	37	940	8	203	8	203
Marine-boxed	30	13.6	37	940	8	203	8	203
Foot	1	.45						
Handle	2	.91						





Marine Power Jack



REPLACEMENT SERVICE PARTS / PIÉCES DÉTACHÉES

ITEM ARTICLE	LIGHT WT LÉGER	STANDARD Standard	SHORT Normal	DELUXE DE LUXE	HEAVY DUTY Lourd	MARINE MARIN	DESCRIPTION DESCRIPTION
1	87571	87571	87595	87595	87595	87595	Upper Cover Couvercle supérieur
2	87060	87060	87057	87057	87057	87057	Cover Screw Vis du couvercle
3	87055	87055	87942	87942	87942	87942	Motor Ground Screw / Vis
4	86111	86111	86111	86111	86111	86111	Lock Washer
							Kondelle de blocage
5	75367	75367	75625	75625	75625	75625	Moteur et bornes
6	N/A	N/A	87916	87916	87916	87916	Cover Tube Tube du couvercle
7	N/A	N/A	87108	87108	87108	87108	Bevel Gear Kit Pianon conique
8	N/A	N/A	88002	88002	88002	88002	Gear Housing Cover Couvercle de la boîte de vitesse
9	N/A	N/A	70298	70298	71132	70298	Drive Pin Goupille d'entraînement
10	N/A	N/A	87941	87941	87941	87941	Drive Shaft
	07570	07570	07507	07507	07507	07507	Lower Cover
11	8/5/3	8/5/3	8/59/	87597	87597	87597	Couvercle inférieur
12	N/A	N/A	87585	87585	87585	87585	Wire & Light Bulb* Ampoule électrique*
13	N/A	N/A	87591	87591	87591	87591	Lens / Lentille
14	87035	87035	87035	87035	87035	87035	Hole Plug
	0/000	01000	07000	0/000	07000	0/000	Bouchon de l'orifice
15	80237	80512	87489	87500	87559	N/A	Find the second
16	N/A	N/A	87847	87847	87847	87847	Washer Support
17	70229	70229	70667	70667	70667	70667	Pin / Tige
18	87568	87568	87508	87508	87508	87508	Ground Wire
	07300	07300	07550	07550	07330	07550	Fil de terre
19	N/A	N/A	87586	87586	87586	87586	Light Switch Commutateur d'éclairage
20	87570	87570	87570	87570	87570	87570	Motor Switch Commutateur du moteur
21	87327	87327	87327	87327	87327	87327	Strain Relief Bushing Bague de bride de cordon
	NI / A	NI / A	07500	07500	07500	07500	Jumper Wire & Fuse
	N/A	N/A	07099	07099	07099	07099	Fil de connexion et fusible
23	N/A	N/A	N/A	N/A	N/A	N/A	Fuse▲ / Fusibles▲
24	87176	87176	87176	87176	87176	87176	Mounting Bolt / Boulon
25	87801	87801	87801	87801	87801	87801	Manual Drive Handle Manette de commande manuelle
	70001	70000	70001	70000	07031	70001	Cotter Pin
26	70269	70269	70269	70269	N/A	70269	Goupille fendue
27	80238	87021	87021	87021	87021		Coupelle ronde
28	87709	87709	87709	87709	70215	87709	Clevis Pin Axe de chape
	07077	07077	N1/A	N1 / A	NA	N1/A	Hex Drive Nut
29	0/0//	δ/U//	IN/A	IN/A	NA	IN/A	Ecrou de commande nexagonal
30	87569	87569	N/A	N/A	N/A	N/A	Fil du fusible
31						87150	Bracket / Patte
32						84037	Uaster / Roue pivotante

 $(\mathbf{1})$ 1 -18 (5) (29) -17) 20) £, (11) -(30) (15) (26) (28) Ð (27) Short, Deluxe, Cric électrique service court,

Cric électrique

service normal

et léger

Standard &

Lightweight Power Jack



(26)

(27)

B

*912 type T5 12 candle power *912 type T5 12 candelas

▲Buss Type AGC-30 amp fuse ▲Buss type AGC-30 à fusible

Marine Power Jack



23

(28)

Duraleg Center Mount Jack

Atwood DuraLeg[®] Selection Guide

|--|

Atwood Datalog								
Part	Description	Leg Ca	apacity	Leg Weight				
Number	Description	lbs	Kg	lbs	Kg			
66038	DuraLeg, single switched	10,000	4,536	85	39.0			
66369	DuraLeg, single 2-speed	10,000	4,536	85	39.0			
66370	DuraLeg, dual 2-speed	10,000	4,536	160	72.6			



MAINTENANCE

- 1. Internal part of Duraleg are permanently lubricated at the factory and do not require any further lubrication.
- 2. If it is not possible to get Duraleg to operate freely, replace Duraleg.
- 3. At least once each usage season fully extend jacks and clean dirt and grime from outside of inner tube. Coat entire outside of inner tube with silicone spray lubricant. This will protect the finish of the inner tube and provide lubrication between the jack's tubes. Clean dirt and grime from outer housing.
- 4. Apply a good automotive polish or wax to the outer tube of the jacks to maintain the appearance.

Manual Override

To Manually Extend or Retract jack, use a 1/2" socket on Drive nut on end of motor (fig 12).

Note: It takes 500 revolutions of nut to extend/retract leveler one (1") inch.

A CAUTION PERSONAL INJURY/PRODUCT DAMAGE

- Battery operated drills, 9.6V to 18V, are powerful. Hold drill with both hands to protect your wrist. Keep loose clothing and body parts away from drill as the reaction torque from the drill may cause it to kick back.
- Refer to your drill manufacturer's operation manual.
- Use a battery operated drill/drive to rotate nut counter clockwise (looking from bottom end of nut FIG 12) to extend jack.

SYSTEM PROTECTION FEATURES:

Low Voltage Protection

Low Battery indicator lights indicates voltage drop below 10.5 volts. Charge battery or connect trailer to tow vehicle. Turn system off then back on to clear low battery. If system "times out" and shuts off automatically, just turning it back on will clear low battery indicator.





TIP:

If the storage battery of the trailer is charged by the tow vehicle; it will improve the performance of the jack under very heavy loads if the tow vehicle wiring harness is connected and the tow vehicle is running. This is not required but may improve the performance in some cases.



• The tow vehicle must be in park and the emergency brake set when making vehicle hook up and operating the jack.



For complete Duraleg operating instructions please see Literature Number MPD 66199

e number MPD 66199

TOC



PHONE: 574•264•2131 FAX: 574•262•2550 INTERNET: http://www.atwoodmobile.com Remote Control Electric Ball Screw Camper Jacks

TROUBLE SHOOTING GUIDE

Effective: 9/11/06

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PERSONAL INJURY AND/OR PRODUCT DAMAGE

 If any of the following conditions develop, the trailer must not be used until proper corrective action is taken.

CONDITION WITH SOLUTIONS

REMOTE WORKS INTERMITTENTLY

Low voltage	Recharge the camper battery.
Antennae out of alignment	Straighten the antennae. Arrange so they
	are perpendicular to the sides of the relay module.
Small energy drains	Turn appliances and electronic equipment
	off, not just in sleep mode.
Interference from other RF	Move other radio frequency devices
devices	such as cell phones, key fobs, or TV
	remote control, away from the camper.
	These can interfere with the proper
	operation of the remote control system.
Weak signal	Walk around outside the camper, while
	operating the remote, to determine the
	best position for operation.

LIGHT ON ACTIVATION SWITCH DOES NOT TURN OFF

Relay module operationTurn on the activation switch. Now turn it off. If the light does not go out, replace the relay module.

ONE OR MORE JACKS DO NOT OPERATE

Jack cord not plugged in	Verify that each jack cord is securely
	plugged into the outside of the camper.
Wiring	Check wiring between relay module and
	jack are correct & wires are not crossed.

Low voltage	Using a digital voltmeter, verify there is at least 12 volts present and the polarity changes between "extend" and "retract".
Module operation	If there is no output voltage, replace the relay module. Check operation of electric jack and its wiring before connecting it to the new relay module - shorted jack will damage the relay module if connected and turned on.
Shorted wiring or jack	If there is voltage on the output of the relay module, the problem is in the wiring or the electric jack.
NOTHING HAPPENS	
Remote control battery dead	Replace the 9V battery in the hand held remote control.
Unmatched dip switch settings	Compare the dip switch settings on the relay module to those of the hand held remote control. If different, make them the same settings.
Relay module operation	Replace the relay module and see if the system operates.
Remote control operation	Replace the remote control and see if the system operates.
Cable	Obtain a known good cable from another Atwood remote control system and install the cable between the relay module and the activation switch.

NOTHING HAPPENS WHEN I PRESS "ALL JACKS", BUT I HEAR A CLICKING SOUND

Low voltage	Recharge the camper battery.
Battery connections	Check the battery connections

ONE OR MORE JACKS, BUT NOT ALL, CANNOT BE CONTROLLED BY THE HAND HELD REMOTE

Crossed wires	Verify that the output wiring is correct.
Jack operation	Verify, using the hand crank, that the
	electric jacks work properly.
Module operation	If the two above are correct, replace the
	relay module.

AMP DRAW

No load	
	retracting jacks.
With load	Less than 25 amp draw to lift 2,200 lbs
	at 12 VDC.

Atwood Truck Camper Jacks

					Color	Application
Truck Octor		-		/	/ /	Wireless Remote
Iruck Cam	per Ja	аск		.18	ne	Control Kit—85441
Salaction (ohiu£		W	Mr.	camp	The Remote Control Kit consists of the
SCIECTION	Julue		arctic	mile	notel 105.	micro-processor unit with antennae, activation
Model	Part No.		e (h.) of	Willing	si 150 mp	wall switch cable connecting the unit to the
Widder	Fart NO		Nº.	/ %	C.0.8	wall switch, and handhald ramata control
REMOTE CONTROL	JACKS (se	t of four (4	4) jacks o	nly)		
Electric Ball Screw	80491	•		•	•	Obsolete Wired Remote kits - 85449, 85451, 85444
Electric Ball Screw	80492		•	•	•	No replacement parts available.
Heavy Duty Ball Screw	80411		•	•	•	Must replace complete control kit with MPD 85441.
Heavy Duty Ball Screw	80417	٠		•	•	
JACKS (set of four	(4) jacks	only)				TO ORDER JACKS, KITS AND REPLACEMENT PARTS -
Electric Ball Screw	80488	•		•	•	1. DETERMINE TYPE OF JACK
Electric Ball Screw	80489		•	•	•	Hand Cranked Acme Manual Ball Screw
Heavy Duty Ball Screw	80412	•		•	•	
Manual Ball Screw	84371	•		•	•	2 COLOB CHOICE New White or Pure White
Manual Ball Screw	84376		•	•	•	3. REMOTE CONTROL
Acme Screw	84241		•	•		4. BRACKET KITSWide Front / Wide Rear
Acme Screw	84246	•		•		GVWR < 1500 lbs. (ONLY) Order Narrow Fronts / Narrow Rears
HARDWARE/BRACKET	KITS for wi	de front, narr	ow rear with l	lower clamps	for rear jacks	Interference in the camper rear (generator or water beater compartment) Order Wide Fronts / Narrow Bears
Electric Ball Screw	85930		•	•	•	Truck with Dual Rear WheelsOrder Swingout Bracket Kits
Electric Ball Screw	85964	•		•	•	
Manual Ball Screw	85925		•	•	•	
Manual Ball Screw	85927	•		•	•	Electric Ball Swing-out
Acme Screw	85966		•	•		Acme Manual Ball Screw Jack Bracket
Acme Screw	85967	•		•		Screw Jack Screw Jack
HARDWARE/BRACKE	T KITS for w	vide front, v	vide rear wi	ith lower cla	mps	A A A
Electric Ball Screw	85981		•	•	•	
Electric Ball Screw	85983	•		•	•	Adapter Adapter
Remote Electric	85984	•		•	•	
Remote Electric	85985		•	•	•	
Manual Ball Screw	85979		•	•	•	
Manual Ball Screw	85982	•		•	•	
HARDWARE/BRACKE	T KITS for w	vide front, v	vide rear <u>w</u> i	ithout lower	clamps	
Acme Screw	85969		•	•		
Acme Screw	85970	•		•		Bracket Kit
HARDWARE/BRACKET	KITS for na	arrow front,	narrow rear	with lower c	lamps	
Electric Ball Screw	85972	•		•		
Manual Ball Screw	85974	•		•		or
SWING-OUT KITS fo	or use with	dual-whe	el pick-ups	s		
All Pickup Jacks	85428		•			
All Pickup Jacks	85473	•				
RETROFIT KITS (Zin	c plated O	NLY) Retro	ofits onto e	xisting Atwo	ood jacks	
Electric Ball Screw	87357					
Remote Electric	87329					
REPLACEMENT PAR	RTS - REM	OTE CONT	'ROL & EL	ECTRIC C	MPR JCK	
Wireless Remote Co	ntrol Kit	85441				Dimensions
Handheld Wireless	Remote	85442				
14' Phone Cable		85453				Model A B C D E
Relay Controller		85439				in. mm in. mm in. mm in. mm in. mm
Activation Switch		85440				Electric 11 2/9 13 330 32 813 33.5 851 56 1422
						Manual 3 /b 13 330 32 813 33.5 851 48 1219
Male Plug-Electric C	Cmpr Jck	87034				Acine 3 /b 13 330 32.5 826 27.5 699 48.5 1232
						 * Includes mounting brackets as specified, required bolts, washers and nuts, handle, wiring receptacles and installation/operation instructions.

Hardware/Bracket Kits (required) include mounting brackets, required bolts, washers and nuts, handle and installation/operation instructions, plus wire receptacles for the Electric Ball Screw Jack.

The Swing-Out Kit, to accommodate dual-wheel pick-ups, must be used in conjunction with a Hardware/Bracket Kit.

Retrofit Kit includes lower zinc clamp, wiring receptacles, required bolts, washers and nuts, handle and installation/operation instructions.

TRUCK CAMPER JACKS



		BOCK (OBS)		BALL S	CREW*	ELECTRIC*				
						REGU	LAR	REMOTE CONTROL		
SPECIFICATIONS	LIGHT-WT	STANDARD	HEAVY	ACME	MANUAL	REGULAR	HEAVY DUTY	REGULAR	HEAVY DUTY	
Max. Camper Weight (lbs)				2,250 (4)	3,900 (4)	3,900 (4)	5,000 (4)	3,900 (4)	5,000 (4)	
Individual Jack Rating (lbs)	1000	1000	2000	1,250	2,200	2,200	2,800	2,000	2,800	
Tripod	Stamped	Chained	Chained							
Drill Adapter				85385	86998					
Travel (extension in inches)	22	22	22	27.5	29.5	29.5	29.5	29.5	29.5	
Bevel Gear Teeth	15 & 15	15 & 15	12 & 16	15 & 15	15 & 15	12 & 16	12 & 16	12 & 16	12 & 16	
* Individual jack may see up to	MOTOR AMP DRAW	Single leg, r	no load	7 amps						
N/N = Narrow Narrow use only if gvwr<1500 lbs.							Single leg,)	K <2000 lbs	19 amps	
WF/NR = Wide Front Narrow	Rear						All legs, 250	00 lbs	40 amps	

Shipping Specifications

Product	Shipping Wt.		Carton	Length	Carton	Width	Carton Depth	
1100000	lbs.	kg	in.	cm	in.	cm	in.	cm
Remote Control (set of 4)	145	65.8	62	157.5	32	81.3	8	20.3
Electric Jack (set of 4)	145	65.8	62	157.5	32	81.3	8	20.3
Manual Jack (set of 4)	108	49.1	55	139.7	18	45.7	8	20.3
Acme Jack (set of 4)	78	35.5	54	137.2	16	40.6	8	20.3
Hardware/bracket kits	20	9.1	22	55.9	12	30.5	3	7.6
Swing-out kits	15	6.8	15	38.1	8	20.3	3	7.6
Wireless Remote kit	2							

INDIVIDUALLY BOXED Truck Camper Jacks

					Heavy Duty			Heavy Duty	Heavy Duty
ELECTRICAL	SHIPPING	Switched	Switched	Switched	Switched	Remote	Remote	Remote	Remote
	WEIGHT	Pure white	New White	Colonial White	Pure White	Pure White	New White	Pure White	New White
Set of 4	145 lbs	80488	80489	80487 - OBS	80412	80491	80492	80417	80411
Driver Front	37 lbs	80470	80466	80461 - OBS	80440	80473	80469	80443	80444
Passenger Front	37 lbs	80471	80467	80462 - OBS	80442	80471	80467	80442	80445
Driver Rear	37 lbs	80472	80468	80463 - OBS	80441	80471	80467	80442	80445
Passenger Rear	37 lbs	80473	80469	80464 - OBS	80443	80473	80469	80443	80444

ΜΑΝΠΑΙ	SHIPPING	Ball Screw	Ball Screw	Ball Screw	Acme	Acme	Acme	SHIPPING
MANUAL	WEIGHT	Pure white	New White	Colonial White	Pure White	New White	Colonial White	WEIGHT
Set of 4	108 lbs	84371	84376	84351 - OBS	84246	84241	84298 - OBS	78 lbs
Driver Front	27 lbs	81443	81439	81435 - OBS	81456	81452	81488 - OBS	20 lbs
Passenger Front	27 lbs	81444	81440	81436 - OBS	81455	81451	81447 - OBS	20 lbs
Driver Rear	27 lbs	81445	81441	81437 - OBS	81458	81454	81450 - OBS	20 lbs
Passenger Rear	27 lbs	81446	81442	81438 - OBS	81457	81453	81449 - OBS	20 lbs



		OBS	OLETE - '	BOCK" STYLE CAMF	PER JA	CK - REF	PLACEMEN	T PARTS
	ITEM #	LIGHT & Standard	HEAVY DUTY	DESCRIPTION	ITEM #	LIGHT & Standard	HEAVY DUTY	DESCRIPTION
	1	25525	84120	Cover Kit COVER COVER CLIP	18	87318	87318	Dual Wheel Jack Ext. Brkt. Kit (2 brackets + hrdwr)
	3, 7	25524	81480	Bevel Gear Kit GEAR PINS	19	87293	87293	Mounting Bracket- Standard
	4, 5 6 8 9	23721 87189 71132	87193 71132	BEVEL GEARS Thrust Washer Shaft Crank Pin	N/S	87281	87281	Mounting Bracket Hardware Kit BOLT 5/8″ x 1″ BRACKET NUT 5/8″
© 13 ⊕ 12 11 0 © 13	10 11 12	87258	87258 25503 25504	Crank Felt Washer Bearing	N/S	81071	81020	Inner & Outer Ram Assembly (includes all parts
	13 14 15 16 17	25500 21693 87258 87272 87264	25500 21693 87257 87283	Thrust Washer Bushing Carrier Ring Tripod-stamped Tripod-chained.				except handle)



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19-

A

	I	ACME & MA	NUAL BALL SCREW	JACK	- REPLA	CEMENT P	ARTS
ITEM #	ACME	MANUAL Ball Screw	DESCRIPTION	ITEM #	ACME	MANUAL Ball Screw	DESCRIPTION
1	85171	85171	Cover-pure white	8	87846	87846	Spacer
	85172	85172	Cover-new white	9	70224	70224	Bushing, nylon
3,4,5,6		85387	Bevel Gear Kit	10	21693	21693	Bushings
			(2 gears, 2 pins)	11	87378	87232	Drive Shaft
2		87853	Knurled Nut	12	70298	70298	Drive Pin
3	85706		Bevel Gear	13	87891	87030	Handle
4	71138		Bevel Gear	BELOW	85385	86998	Drill Adapter
5	71132		Gear Pin	N/S	86470		Bearing
6	70229		Gear Pin				5
7	25504	25504	Thrust Bearing				
			Ĵ	þ			

ELECTRIC & HEAVY DUTY BALL SCREW JACK - REPLACEMENT PARTS

7	ITEM #	PART #	DESCRIPTION UPPER COVERS	ITEM #	PART #	DESCRIPTION LOWER COVERS
A	1	87595 87663 87057	New White Pure White Cover Screws	11	87594 87684 87665	New White FRONT DS New White FRONT PS Pure White FRONT DS
	3 4	87942 86111	Screw Lock Washer	12	87682 87916	Pure White FRONT PS Cover Tube
	5 6,7, & 13 15	75625	Motor Bevel Gear Kit	17 18	87891 87326	Handle Strain Relief Bushing
12	16 8	87570 87847	(2 gears, 2 pins) Motor Switch Washer	Standar (NOT AVA 19	d Jack onl ILABLE FOR 80460	y-Lower Assembly for Electric HEAVY DUTY) Pure White
13 8 8 7 15	N/S 9 10	87912 70298 87941	Nylon Bushing Driver Pin Drive Shaft	19 IN 1994 The ring r	80449 THE MOU	New White NTING SYSTEM CHANGED - with a one piece bracket
				changed 1	to a strap	mounting with two brackets.
18						
					NOTE:	DS = Driver Side PS = Passenger Side





LITERATURE NUMBER MPD 87904

SWING OUT BRACKET

Atwood Mobile Products LLC

1120 North Main Street • Elkhart, IN 46514 PHONE: 574•264•2131 FAX: 574•262•2550 INTERNET: http://www.atwoodmobile.com

ENGLISH

Use with Atwood Acme and Ball Screw Truck Camper Jacks when additional width between the two front jacks is required to clear the fenders on dual wheel trucks. Due to the variety of camper sizes and truck trims, please verify that these swingout brackets provide enough clearance for driver comfort during loading and unloading.

For complete Acme and Ball Screw truck camper instructions consult MPD 87903.



MPD 85428 - New White

MPD 85473 - Pure White

Swing Out Bracket Kit contains -

- **1** Driver Side brkt. Note the single grooved bushings (FIG 1-A).
- 1 Passenger Side brkt. Note the double grooved bushings (Fig 1-B). 6 Nuts and bolts
- 12 Washers

INSTALLATION

- 1. The end with the 1/4" thru-bolt must be at the top of the bracket during installation (FIG 2-A).
- 2. The angle bracket welded to the bushing with the thru-bolt attaches to the bracket already on the camper corner (FIG 1-C / 2-B).
- 3. Use three-3/8" x 1-1/2" long Grade 5 bolts and washers to attach each bracket. Torque bolts to between 15-20 ft. Ibs (FIG 1-D).



•Installation •Operation •Maintenance

Effective 10/26/04

- 4. Attach jack to other angle bracket with three 3/8" x 1-1/2" long Grade 5 bolts and washers. Torque bolts to between 15-20 ft. lbs (Fig 1-D).
- **NOTE:** For Acme and Manual Ball Screw Jacks switch the front jacks from driver side to passenger side and vice versa to allow the crank handle to operate.

A WARNING PERSONAL INJURY & PRODUCT DAMAGE

- Position swing out brackets properly. In the Extended Position 90° outward to the side of camper (FIG 3-A) and in the Retracted Position 60° inward to the side of camper (FIG 3-B).
- Jack bracket must be in retracted position when traveling on roadway (Fig 3-B).

OPERATION

Extended Position -

 Lift jack and swing outward from camper body to clear truck's dual wheel fenders. When jack is in the extended position, be sure the bracket attached to the jack (FIG 2-D) rides up into the notch in the camper corner angle bracket attached to the camper (FIG 2-D). This must be done visually prior to loading jack.

Retracted Position -

2. After the jack is retracted, lift the jack and rotate it forward (inward) so when released, the bracket attached to the jack rides down into the notch in the camper corner angle (FIG 2-E).

MAINTENANCE

1. Spray entire bracket with silicon spray lubricant at least once each camping season. Wipe off excess.



Atwood Levelegs[®]



Atwood Levelegs Selection Guide

Atwood Levelegs						
Part	Description	Capa	acity	Weight		
Number	Description	lbs	Kg	lbs	Kg	
66302	7.5K 13" travel	7,500	3,409	32	14	
66280	7.5K 15" travel	7,500	3,409	34	15	
66375	10K 13" travel	10,000				
66070	10K 15" travel	10.000		54	25	
Control Kits						
66276	Workhorse® Auto Position					
66272	Ford [®] Auto Position					
66387	5th Wheel - Auto Position					
85480	5th Wheel - 4 motor remote control					



CONTROL PAD LED INDICATORS The control pad LED's indicate the following wh	en illuminated:
DESCRIPTION	COLOR
Vehicle Engine running (ignition switch	
is in the ON position) (MOTORHOME ONLY)	green
Park Brake engaged (MOTORHOME ONLY)	green
Park engaged (MOTORHOME ONLY)	green
Low Voltage (less than 13 VDC present	
at controller)	red
ON/OFF (referencing power to control box)	green
Extend/Retract Mode	green
Leveler positions	
Fully Retracted	solid green
Extended	green blinking
Extending/Retracting	red blinking
Fully Extended	solid red







Atwood Mobile Products LLC 1120 North Main Street • Elkhart, IN 46514 PHONE: 574•264•2131 FAX: 574•262•2550 INTERNET: http://www.atwoodmobile.com

Guides are only intended for use on Atwood® products by service technicians who have successfully completed Atwood® training. This

guide should be used in conjunction with the appropriate Instruction Manual provided with the product and any applicable Industry Standards. This is not intended to be a complete list. Please direct questions concerning service of Atwood[®] products to 866-869-3118 before proceeding.

WARNING PERSONAL INJURY AND/OR PRODUCT DAMAGE

• If any of the following conditions develop, the RV must not be

used until proper corrective action is taken.

CAUSE WITH SOLUTIONS

SCROLLING LIGHTS ON KEYPAD

• Communication between keypad and control board lost. Check wiring between keypad and control board.

JACK CONTINUES TO CLUTCH AND WILL NOT TURN OFF

 Short jack extension followed by jack retraction. Put system in error mode by disconnecting one jack from power and pressing RET and ALL. Reconnect jack to power. Manually extend individual jacks for 10 seconds by holding down the EXT key and the two jack keys that make up the camper corner of that jack. Listen to insure all jacks move when manually activated. Press RET and ALL to retract all jacks.

RED AND GREEN LIGHTS COME ON FOR A SPECIFIC JACK LOCATION

Loss of power to jack

- Manually extend individual jack by holding down the EXT key and the two jack keys that make up the camper corner of that jack. Listen to insure all jacks move when manually activated. Press RET and ALL to retract all jacks.
- 2. If jacks do not move, inspect wiring at jacks and at control board to insure proper connection.

KEY PAD WILL NOT TURN ON

- No power to key pad
 - 1. Insure vehicle engine is running, transmission is in 'PARK' and park brake is set.
 - 2. Check wiring between keypad and control board.

JACKS WILL NOT MOVE

- No power to jacks
 - 1. Insure vehicle engine is running, transmission is in park and park brake is set.
 - 2. If emergency stop was activated by pressing any keypad button, press 'RET' and 'ALL' to reset legs.

AUTO POSITION DOES NOT LEVEL THE COACH

 The last position in memory was not level. Leveler System always returns to position in memory.

- 1. The control board must be mounted horizontally, on a solid fixed surface and can not be more than 10 degrees out of level.
- 2. Manually set coach to desired position and program position into
- memory, following the steps in the IOM.
- PANEL LIGHTS BLINK "ON" AND "OFF"

An Auto Position is not set

Set the Auto Position, referring to the IOM.

TRANSMISSION LIGHT WILL NOT COME ON

- Chassis wiring fuse problem
- Check fuse on chassis fuse box.

The following error modes are built into your system to detect problems.

FALSE RET (FULL RETRACTION) ERROR MODE

• For extensions greater than 20 seconds, if the retraction time for any leveler is less than the extension time (indicating premature clutching prior to full retraction), the following occurs:

LEVELEGS[™] SYSTEM TROUBLE SHOOTING GUIDE

Effective: 1/22/07

- 1. Warning alarm will sound.
- 2. Power is removed from the control box disabling normal operations. (This is done to encourage operator to do a visual inspection of levelers prior to further leveling operations.)
- 3. The red and green LED's for the particular leveler will blink on and off to indicate the system is in an error mode.

• To proceed,

- 1. Press "ON". This will shut the warning alarm off.
- 2. Visually inspect the leveler.
- 3. If it is required, activate levelers to correct problem. Simultaneously press the EXTEND or RETRACT mode switch along with the adjacent two (2) leveler switches common to the lit LED's. In error mode, any leveler can be activated in this manner.
- 4. Complete an ALL RETRACT operation and system is now out of error mode and ready for normal operations.

NO CURRENT ERROR MODE

- During any operation if no current is detected from leveler after leveler is activated, the following occurs:
 - 1. Warning alarm will sound.
 - 2. Power is removed from the control box disabling normal operations.
 - 3. The red and green LED's for that leveler will blink on and off to indicate the system is in an error mode.
- To proceed,
 - 1. Press "ON". This will shut the warning alarm off.
 - Simultaneously hold down all four direction buttons and the "All" button. This resets the timers so controls will detect the next clutch.
 - 3. Press "RET" and "ALL" buttons. The system is now out of error mode and ready for normal operations.

If step 3 does not fix the problem, individual levelers can be retracted by simultaneously pressing the "RET" button and the adjacent two (2) leveler buttons common to the leveler requiring retraction.

LEVELER CONTINUES TO "CLUTCH"

- To proceed,
 - 1. Press "ON". This will shut the warning alarm off.
 - Simultaneously hold down all four direction buttons and the "All" button. This resets the timers so controls will detect the next clutch.
 - 3. Press "RET" and "ALL" buttons. The system is now out of error mode and ready for normal operations.

TROUBLE SHOOT SEQUENCE

- 1. Disconnect power to one jack by unplugging jack quick connect at jack motor.
- 2. Turn power on at keyboard.
- 3. Press "RET" and "ALL" buttons together to put system in error.
- 4. The buzzer should sound on the keypad and the jack lights should be blinking red and green.
- 5. Turn keypad off by pressing the ON button.
- 6. Reconnect power to disconnected jack.
- 7. Turn keypad on by pressing ON button.
- 8. Hold down the EXT button and the DRIVER and REAR buttons together for 10 seconds to run the passenger rear jack down.
- 9. Hold down the EXT button and the PASS and REAR buttons together for 10 seconds to run the passenger rear jack down.
- 10. Hold down the EXT button and the DRIVER and FRONT buttons together for 10 seconds to run the passenger front jack down.
- 11. Hold down the EXT button and the PASS and FRONT buttons together for 10 seconds to run the passenger front jack down.
- 12. Visually inspect to see that all jacks moved and went down a few inches.
- 13. Press release the RET and ALL buttons together to bring the jacks up.
- 14. All jacks will come up to full retraction and stop after a few clutches of the motor.





			10/9/06 MPD 70335	
	• 5TH	WHEEL LEVEL	EGS	
Unhooking From Tow Vehicle and I	eveling RV.	Hooking Up To Tow Vehicle Retraction	on of Levelers	
 Park on solid ground without obstruct Chock wheel and warn persons to sta 	tions. nd clear of RV.	 Retract slide rooms and warn all persons to stand clear of RV 		
2. Do not extend slideouts until RV is lev	/eled.	2. Switch Activation Switch ON.		
3. Switch Activation Switch ON.		3. Turn on Key Pad	ON	
4. Turn on Key Pad	ON	4. Auto retract the rear levelers	RET/ALL/REAR	
5. Auto extend Landing Gear (Front Legs)	EXT/ALL/FRONT	 Set King Pin height (per hitch mfg.'s recommendations) for proper 	EXT/FRONT Ret/Front	
Set preferred King Pin height for unhooking hitch	EXT/FRONT Ret/front	6. Position tow vehicle, connect hitch		
Detach Tow Vehicle from RV and move to safe distance.		and connect trailer wiring harness 7. Auto retract Landing Gear (front legs)	RET/ALL	
8. Auto extend rear levlers and level RV.	AUTO	once safely hitched.	FRONT	
9. Once RV is level, turn unit off and	<u>ON</u>	8. Turn unit off and Activation Switch OFF	ON	
Activation Switch OFF.	UN	9. Remove chocks from wheels before tow	ing.	
CAUTION: READ INSTRUCTION MANUAL 66385 BEFORE USE				

SYSTEM PROTECTION FEATURES

Automatic Retract

- Anytime the engine is on, if the vehicle brake is depressed and transmission is taken out of park, the levelers will fully retract automatically.
- During auto retraction, an alarm will sound and all LEDs will blink on and off.

Nine Cycle Maximum

- The controls will shut off for 15 minutes any time nine (9) full retractions occur in less than 30 minutes.
- When this occurs, all four system status lights blink off and on.
- This sequence can be over ruled by turning the ignition off, then back on.

Low Voltage Protection

- If the voltage falls below 10.5 VDC, leveler operation will cease and the low voltage LED will flash.
- Controls will be inoperable until battery voltage climbs above 13 VDC, at which time leveling functions will resume.

Manual Override

- To Manually Extend or Retract Leveler, use a 1/2" socket on Drive Nut on end of motor (FIG 10-A).
- Rotate nut counter clockwise (looking from bottom end of nut [Fig 10-B]) to extend leveler.

NOTE: It takes 500 revolutions of nut to extend/retract leveler 1".

A CAUTION PERSONAL INJURY/PRODUCT DAMAGE

- Battery operated drills, 9.6V to 18V, are powerful. Hold drill with both hands to protect your wrist. Keep loose clothing and body parts away from drill as the reaction torque from the drill may cause it to kick back.
- · Refer to your drill manufacturer's operation manual.
- Do not over extend or over retract levelers. Each leveler has built in stops. Excessive force applied against the stops will cause damage.
- When manually overriding the leveler do not use pneumatic tools to operate any leveler. They can over-extend or over-retract the leveler.
- If the motor will not extend/retract the leveler and the motor is making a ratcheting sound (clutch slipping), do not use the manual override. Immediately contact an Atwood Service Center and have leveler replaced. Do not use the leveler until replaced.

EMERGENCY STOP ANY LEVELER ACTIVITY PRESS ANY BUTTON ON KEY PAD

5th Wheel Landing Gear Selection Guide

Landing Gear includes handle.

LANDI										
	P/N	Description		Leg C	apacity	System	Capacity	Ver	sion	Rate of Travel
P/N	Boxed*	Description	Screw Type	lbs.	kg.	lbs.	kg.	Electric	Manual	Approximate
75384	75333	Heavy-duty*	Acme	3,000	1364	6,000	2727		•	4.0 in/min
75399		2 Motor Heavy Duty	Acme	3,000	1364	6,000	2727	•		4.0 in/min
75326	75362	Super-Duty*	Ball Screw	4,000	1818	8,000	3636	•		6.2 in/min
75331		Direct Drive, 2 MOTOR, INLINE	Ball Screw	4,000	1818	8,000	3636	•		6.2 in/min

* Shipped without a motor. If

(1) motor is needed, order 75391. If (2) motors are needed, order 75366

LEG CAPACITY DEFINITION: The leg capacity is the maximum vertical load the leg can support. SYSTEM CAPACITY DEFINITION: The system capacity is the maximum vertical load both legs and motor (if included) can support.

Accessories

MOTOR	MOTORS				
Composite	Description				
75391*	Single Motor Kit w/regular switch panel				
75366	Two Motor Kit w/87701 Dual Motor Switch Panel				
75367	Single Motor Kit no switch				
75388	Single Motor Replacement Kit for Super Duty				
75387	Single Motor Kit w/teeny switch panel				
75406	6000 lb Motor and Switch				
70334	Single Motor Kit - Direct Drive				
HANDLE					
70920	Handle, One-piece 18"				
70983	Handle, One-piece 26"				
OPTION	AL PULL PIN				
70045	"Snaps" pull-pin, pair, bolt-on for use only with Super Duty legs				
75360	Bolt-on, pair of pull-pins				
ALIGNM	ENT TUBES				
75521	Alignment Tube, 213/4", screw-on				
75529	Alignment Tube, 171/2", screw-on				
75522	Alignment Tube, 2", screw-on				
70542	Alignment Tube, 9 ¹ /2", weld-on				
70557	Alignment Tube, 7 ¹ /2", bolt-on for use w/composite gear box				
SWITCH	PANEL				
87701	Switch Panel for 2 motor sets				
GEAR B	OX REPLACEMENT KIT				
70177	Service Kit for Heavy Duty				
70180	Service Kit for Standard Duty				

* UL Listed Marine Ignition Protected

	Atwood 5th Wheel Landing Gear	Side View
Optional 12VDC Motor	Front View $4^{3/4} \rightarrow 4^{3/4}$	→ 5 ³ /16" 32 ³ /8" 8" →
"Snaps" Pull Pin	Alignm Landing Gear must have half-hole in ram for pull- pin to fit Atwood pull-pin (bolt-on version shown-for use on standard and heavy duly only	Weld-On Screw-On 0 Bolt-On

CAPACITY **DO NOT EXCEED THESE CAPACITIES** Standard Duty - OBSOLETE

Manual 🕈	1,000 lbs. per l	leg,	2,000 lbs. system
Manual 🕶	2,000 lbs. per	leg,	4,000 lbs. system
Electric 🗲	2,000 lbs. per l	leg,	4,000 lbs. system
Heavy-Duty			
Manual **	3,000 lbs. per l	leg,	6,000 lbs. system
Electric 🗲	2,500 lbs. per l	leg,	5,000 lbs. system
Electric 44	3,000 lbs. per l	leg,	6,000 lbs. system
Super-Duty			
Electric 44	4,000 lbs. per l	leg,	8,000 lbs. system
Direct Drive			
Electric 44	4,000 lbs. per	leg,	8,000 lbs. system
w		,	stands motor
* without ge	ar box	7	single motor
•• with gear	box	44	dual motor



Atwood 5th Wheel Leveling Systems



Selection Guide

A B

Part	Description	Leg Ca	pacity	System Capacity		
Number	Number		Kg	lbs	Kg	
ATWOOD	LEVELEGS (individual)					
66302	7.5K Leveleg	7,500	3,410	15,000	6,820	
LANDING	GEAR (sets of 2)					
75399	2 Motor H.D. Ldg. Gear	3,000	1,364	6,000	2727	
75326	2 Motor Super Duty	4,000	1,818	8,000	3636	
75331 2 Motor Direct Drive, Inline		4,000	1,818	8,000	3636	
CONTRO	LLERS					
87701	Dual Switch Panel	Contro	ls Front (Only		
85476	476 Remote Control - 2 Motor Controls Front Only					
85480	Remote Control - 4 Motor	Controls All Four Legs				

MAINTENANCE

1. Before use, inspect drop tube and inner ram tube. Replace if bent or damaged.

2. ONCE EACH YEAR:

- a. Extend landing legs as far as possible, clean drop tube and inner ram tube. Coat exposed surface of tubes with silicone spray lubricant.
- b. Coat inside of handle alignment tube with silicone spray lubricant.
- c. Oil shaft bushing in gear box and leg gear heads with SAE 30 oil.
- d. Lubricate gears in gear box and landing leg gear heads with extreme pressure grease.
- 3. For Electric Drive Motor Landing Legs, twice each year, check wiring connections at battery. Clean terminals with a solution of baking soda and water. Cover with a thin coat of grease.

NOTE: Electric Drive Motor is lubricated at factory and requires no further lubrication.

- 4. The Electric Drive Motor Landing Leg system is protected by a 30 amp fuse. If replacement is necessary, replace only with a Buss Type AGC-30 fuse or equivalent, available in automotive supply stores.
- 5. The 3:1 gear box is not reparable. Do not take it apart. If you have a problem with the gear box, replace it.

TROUBLESHOOTING

If all or any of the jacks or landing legs fail to operate:

- 1. Check whether the 12VDC battery is fully charged. You may need to recharge it.
- Check that the camper jack cords are securely plugged into the exterior sockets. You may need to pull a plug out and replug it.
- If the motor will not extend/retract the jack and the motor is making a ratcheting sound (clutch slipping), do not use the manual override. Immediately contact an Atwood Service Center and have jack replaced. Do not use the jack until replaced.
- 4. Assure the activation switch is turned on. The LED on the switch pad should be lit.



- 5. Hold the hand-held remote vertically with the keypad facing you and have the remote between you and the camper.
- 6. Check that you are within 20 feet of the camper.
- 7. Replace the 9V battery
- 8. Check that the battery terminals are clean and have no corrosion.
- 9. Be sure the dip switch code for the remote and the power relay module are set for the same code.
- 10. Look to see if other radio frequency devices such as an automobile key fob, cellular phone, TV remote control, are operating within range of your remote. These devices will make the jacks pause. Lift your finger from the button on the remote and re-press the button.

If the jacks keep running, push the activation switch and the light on the switch will go out. This will shut the power off to the jacks. If not, unplug the jack(s) from its (their) exterior socket(s).

Rear Leveler Operation

 To Manually Extend or Retract Leveler, use a 1/2" socket on Drive Nut on end of motor (FIG 7-A). Rotate nut counter clockwise (looking from bottom end of nut [FIG 7-B]) to extend leveler.

NOTE: It takes 500 revolutions of nut to extend/retract leveler 1".

A CAUTION PERSONAL INJURY/PRODUCT DAMAGE

- Battery operated drills, 9.6V to 18V, are powerful. Hold drill with both hands to protect your wrist. Keep loose clothing and body parts away from drill as the reaction torque from the drill may cause it to kick back.
- Refer to your drill manufacturer's operation manual.

For complete operating instructions of Landing Legs and Rear Levelers, please see literature numbers MPD 71125 and MPD 87920.

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5th Wheel Landing Legs



PART IDENTIFICATION

	PART NUMBERS					
ITEM	STANDARD	HEAVY	SUPER	DIRECT	DESCRIPTION	• The manual Standard and
				87891	Crank Handle / Manivelle	Heavy Duty landing legs
1	70920	70920	70920	N/A	Crank Handle Assembly / Manivelle, 41 cm	include the cross shaft.
	70983	70983	70983	N/A	Crank Handle Assembly / Manivelle, 58 cm	Order the optional motor kit,
2	70328	70328	70328	70328	Sheet Metal Screw / Vis à tôle	#75391, to convert them to
3	75521	75521	75521	75521	Alignment Tube, 21-3/4" / Tube d'alignement, 55cm	electric jacks.
	75529	75529	75529	75529	Alignment Tube, 17-1/2" / Tube d'alignement, 44.5cm	• For independently operated
4	70542	70542	70542	70542	Alignment Tube, 9-1/2" / Tube d'alignement, 24 cm	legs, the Heavy Duty can be
	70557	70557	70557	70557	Alignment Tube, 7-1/2" / Tube d'alignement, 19 cm	ordered in a two-motor
5	71132	70229	70229	N/A	Gear Drive Pin / Broche d'entraînement de réducteur	version.
6	75062	75061	75061	87941	Driver D-Shaft - new / Arbre primaire - NOUVEAU	N/A Not available
6	/0105	/0/5/	70757	N/A	Driver Shaft - old / Arbre primaire - Ancien	* These part numbers vary on
	71486	71488	/14/0	/1528	Driver Leg, 15-1/2 Detween mtg. stops - new	non-standard sets. When
7	*71/0/	*71/17	71/25	NI/A	Dequille primaire, 39,4 cm entre bulees de montage - Nouveau	ordering replacement parts,
· · ·	/ 1424	/ 14 1/	/ 1455	N/A	Báquille primaire 30.4 cm entre butées de montage - ANCIEN	know the overall length and
8	70004	70004	70216	N/A	Dron Tube / Tube télesconique	stops if any
<u> </u>	70269	70269	70210	N/A	Bridge Pin / Gounille	
10	70008	70008	70008	70271	Foot Pad / Patin	 Les béquilles manuelles «
11	70325	70325	70325	N/A	Clevis Pin / Broche à épaulement	Service Normal » et « Service
12	N/S	N/S	70215	N/A	Ball Detent Pin / Broche à bille	lourd » comprennent un arbre
13	87186	87186	N/S	87186	Lock Pin / Broche de verrouillage	kit de moteur en option n°
14	21693	21693	21693	N/A	Bushing / Coussinet	75391 pour les convertir en
15/36	75030	75029	N/A	75029	Bevel Gear Kit/ Pignon de renvoi	béquilles électriques.
16	70754	70754	70754	N/A	Crank Shaft / Arbre d'entraînement (OBSOLETE)	Il est possible de commander
17	71320	71320	71320	N/A	Metal 3:1 Gear Box / Réducteur 3/1 métal	les béquilles pour « Service
	75054	75054	75054	N/A	Plastic 3:1 Gear Box / Réducteur 3/1 plastique	lourd » en version à deux
18	70358	70358	70358	N/A	Motor Drive Pin / Broche d'entraînement moteur	moteurs pour commander
19	70815	70815	70815	N/A	Screw, 1/4"x1.28" / Vis, 1/4" x 4,2 cm	chaque béquille
20	70816	70816	70816	N/A	Lock Nut, 1/4" / Ecrou-frein, 1/4"	indépendamment.
21	/1436	/1436	/1436	N/A	Gear Box Hub Cover for metal 3:1 gear box only	N/A Non disponible
	75007	75007	75007	70004	Couvercie de moyeu de reducteur – reducteur metal 3/1 seulement	* Ces numéros de pièce sont
22	70307	70040	70040	70334	Motor Assembly / Moteur complet	différents sur les ensembles
$\frac{23}{24}$	70243	70243	70243	70243	Suitch DDDT / Commutatour bipolaira hidiractionnal	non standard. Pour
	70254	70254	70254	70234	Small Switch DPDT/Petit commutateur bipolaire bidirectionnel	rechange veiller à connaître la
	70266	70266	70266	70266	Ignition Protected Switch DPDT /Commutateur bipolaire	longueur totale et la distance
	10200	10200	10200	10200	hidirectionnel antidéflagrant	entre les butées de fixation, le
25	87701	87701	87701	87701	Three Switch Panel / Panneau à trois commutateurs	cas échéant.
26	N/A	N/A	N/A	N/A	Fuse, 30 amp / Fusible 30 A, Buss-type ACC	
27	86111	86111	86111	86111	Lock Washer / Rondelle-frein	
28	70246	70246	70246	87942	Bolt, Motor Mounting 1/4" x 3-1/2"/	
					Boulon de fixation moteur, 1/4" x 9 cm	
30	70840	70840	N/A	N/A	Cross Shaft End tube, 3/4" sq. /	
					Embout d'arbre creux intermédiaire, carré 19 mm	
31	70841	70841	N/A	N/A	Cross Shaft Tube, 1" sq. / Arbre creux intermédiaire, carré 25 r	nm
32	/066/	70666	70666	N/A	Machine Pin / Broche mecanique	
33	71/05	/081/	N/A	N/A	Driven Snatt / Arbre secondaire	
34	/1420	/1415	N/A	N/A	Driven Ley, 15-1/2 Derween mig. Stops	
35	711/15	71/16	71/16	88002	Gear Case Cover / Couvercle de réducteur	
37	24527	24527	24527	24527	Lock Nut / Écrou-frein	
38	70284	70284	70284	70284	Mounting Bracket / Étrier de fixation	
39	70329	70329	70329	70329	Mounting Bracket Bolt / Vis d'étrier de fixation	
40	N/A	75360	70045	N/A	Pull Pin optional / Broche de traction	
41	70220	70220	70220	N/A	STOP Label / Étiquette STOP	
42	75059	75059	75059	N/A	Collar / collier	
43	75045	75045	75045	N/A	Screw / Vis	
N/S	86997	86997	86997	85385	Drill Adapter / Adaptateur pour perceuse	
N/S	70180	70177	N/A	N/A	Service Kit - includes 3:1 Gear Box and Drive Shaft	
1		1	1			







1. Are the legs driven manually, with a single motor, or dual motors?

- 2. Is the motor gear box black plastic or gray metal?
- 3. If the legs are driven manually or with a single motor, do you need the Driver (leader or master) leg or Driven (follower or slave) leg?
- 4. If you need the Driver leg, does the leg utilize a plastic 3.1 gear reduction box or metal 3.1 gear reduction box?
- 5. Count the number of teeth on each bevel gear on top of the leg. If the tooth count is 12 on one gear and 16 on the other and the system utilizes

a motor for each leg, then also measure the distance between the hole centers in the drop tube (see letter "D" on drawing).

- 6. Measure the total length of the outer housing tube (see letter "A" on drawing).
- Measure from the center of the drive shaft to the bottom of the upper stop (see letter "B" on drawing).
- 8. Measure the distance between the stop tabs (see letter "C" on drawing).

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Atwood

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ENGLISH

SAFETY ALERT SYMBOLS

Safety Symbols alerting you to potential personal safety hazards. Obey all safety messages following these symbols.

avoid possible iniury or death



FOR COMPLETE LANDING LEGS INSTRUCTIONS CONSULT MPD 71125.

For your safety read all instructions before operating landing legs.

NOTE: Atwood 5th Wheel Landing Legs are intended for use on recreational vehicle 5th wheel-type trailers only.

LANDING LEG CAPACITY

Standard Duty	
Manual 🔻	1,000 lbs. per leg, 2,000 lbs. system
Manual 🕶	2,000 lbs. per leg, 4,000 lbs. system
Electric 🗲	2,000 lbs. per leg, 4,000 lbs. system
Heavy-Duty	
Manual 🔻	3,000 lbs. per leg, 6,000 lbs. system
Electric 🗲	2,500 lbs. per leg, 5,000 lbs. system
Electric 44	3,000 lbs. per leg, 6,000 lbs. system
Super-Duty	
Electric 44	4,000 lbs. per leg, 8,000 lbs. system
without gea	r box 🛛 🗲 single motor
** with gear b	ox 44 dual motor

DO NOT EXCEED THIS CAPACITY

A WARNING TRAILER CAN MOVE OR COLLAPSE

- Never exceed the rated capacity of 5th Wheel Landing Leg.
- LANDING LEGS ARE NOT DESIGNED TO BE USED AS TRAILER JACKS. Do not use the landings legs to lift the trailer during tire changes, axle work or trailer servicing (the trailer weight will exceed the capacity of the landing legs). The landing legs are designed to stabilize a portion of the trailer's weight. Support the front end of the trailer with structural stands rated for the GVWR of the trailer.
- The pin between the ram and drop tube should be the same diameter as the adjustment hole in the drop tube. Otherwise premature wear on drop tube and ram can occur.

DETERMINE LANDING LEG TYPE

- **STANDARD DUTY** = A leg with a flat top (FIG 1-A).
- - centers of the holes in the drop tube.

THE DRIVE SHAFTS ARE DIFFERENT. Check your kit. If you have a Standard Duty leg set, the new drive shaft should be silver. For Heavy or Super Duty, the drive shaft is gold.

MPD 70300

3:1 GEAR BOX REPLACEMENT

METAL GEAR BOX REPLACED BY COMPOSITE GEAR BOX 5TH WHEEL LANDING LEGS

Service Kit

Effective 4/11/00

REMOVAL PROCEDURE

- 1. Rotate the drive shaft (FIG 2-A) on the driver leg to fully retract the landing leg. Remove the motor (if there is one). Remove the old gear box (FIG 2-B) from the drive shaft.
- 2. Pop the cap (FIG 1-A) off the top of the leg.
- 3. Locate the vertical (FIG 2-C) and horizontal (FIG 2-D) bevel gears at the top of the leg.
- 4. Using a hammer and punch, drive out the pin (FIG 2-E) under the vertical bevel gear that holds it to the drive shaft.
- 5. Pull out the old drive shaft (FIG 2-A).
- 6. Cut or grind the mounting lug (FIG 2-F) off of the driver leg. Be careful not to burn through the housing if you use a welding torch. Grind the remaining weld flat to provide a smooth surface on the landing leg face. Paint bare metal with black paint.

INSTALLATION PROCEDURE

- 1. Slip the new D-drive shaft (FIG 2-G) through hole on the stop tab face of the leg housing. Then slip the D-shaft through the vertical bevel gear (FIG 2-C) and through the second hole in the leg housing.
- 2. Drive the new pin (FIG 2-E) back under the vertical bevel gear, attaching it to the drive shaft.
- 3. Reattach the cap (FIG 1-A) to the top of the leg.
- 4. Slip the new composite 3:1 gear box (FIG 2-H) over the D-shaft of the driver leg.
- 5. Slip the collar (FIG 2-I) over the D-shaft of the driver leg and fasten it with the screw (FIG 2-J). The extruded part of the collar goes into the cross shaft (if there is one).
- 6. Assemble the cross shaft, if used, (FIG 2-K), by placing undrilled end of 3/4" square tube into open end of 1" square tube.
- 7. Re-attach landing leg to frame. Fully retract before attaching cross shaft. Fasten drilled end of 3/4" square tube to end of shaft through gear box with 1/4" x 1-1/8" long screw (FIG 2-M) and lock nut (FIG 2-N). Bolt end of 1" square tube to shaft of driven leg with 1/4" x 1-1/8" long screw and lock nut. To prevent rattle between tubes, tack weld 1" square tube to 3/4" square tube.




Atwood® 12 VDC Motor & Kits



Motor Kit Selection Guide*

				MOT	OR				SWI	TCH & WII	RING HARN	ESS
Kit No.	Long Legged	Short Legged	3" diameter	Ove in.	He erall mm	ight L	eg mm	Shipping Weight	70254 Single	70259 Narrow Single	70266 Ignition Protected	87701 Dual Motor
75366 †	2	_	-	8 ^{15/} 16	227	3/4	19	5.75 lbs.	_	_	-	1
75367 †	1	-	-	8 ^{15/} 16	227	3/4	19	5.75 lbs.	-	_	-	_
75387 †	1	-	-	8 ^{15/} 16	227	3/4	19	5.75 lbs.	-	1	_	-
75388 † with Warning Label **	1	-	-	8 ^{15/} 16	227	3/4	19	5.75 lbs.	1	-	-	Ι
75391 †	1	-	-	8 ^{15/} 16	227	3/4	19	5.75 lbs.	1	-	-	_
75406 †	—	-	1	8 ^{15/} 16	227	3/4	19	5.75 lbs.	1	_	_	-
75407 †	1	_	-	8 ^{15/} 16	227	3/4	19	5.75 lbs.	_	-	1	-
75409 †	_	_	1	8 ^{15/} 16	227	3/4	19	5.75 lbs.	_	-	_	_
75625	_	1	-	8 ⁷ / ₁₆	214	1/8	3	5.75 lbs.	_	_	_	-
70334 n/s	-		-						-	_	-	_

*Note: All kits also include mounting hardware and instruction manual.

† Long-legged motor for Landing Legs & Power Jacks

 ${\scriptstyle \Delta}$ Short-legged motor for Ball Screw Jacks & Power Jacks

Remote	Control Selection Guide	Remote	Relay Control	Switch	
85476	Remote Control - 2 Motor	Controls Front Only	85488	85490	85489
85480	Remote Control - 4 Motor	Controls All Four Legs	85492	85491	85489
85487	Remote Control - 1 Motor	Controls One Motor	85494	85493	

Motor Operating Characteristics

Load Condition	Min RPM	Torque (in-lbs.)	Max AMP		
No Load	116	0	8		
Operating Load	75	140	30		
Clutch Slip	N/A	180 min. / 300 max.	45		

* UL listed Marine Ignition Protected



Atwood 5th Wheel RV Pin Boxes



5th Wheel King Pin Box Selection Guide

Model No.	Part No.	Description	Angle	Capacity
AB-34	75700	Adjustable height	34°	10,000 lbs. SAE/CSA
AB-34HD	75705	Adjustable height, heavy duty	34°	18,000 lbs. SAE/CSA
AB-72	75690	Adjustable height	72°	18,000 lbs. SAE/CSA
	71251	Inner Sleeve	72°	Fits AB 72
	71275	Inner Sleeve	34°	Fits AB 34



MOTOR TEMPLATE

NOTE:

template.

NOTE: Avoid loading motor to clutch slip. Excessive loading to clutch slip will cause clutch to wear out, decreasing the operating characteristics of the motor. Limit clutch slip to a maximum of only

1 to 2 seconds.



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Atwood Folding Hitch Ball & Installation Kit





Folding Hitch Ball & Installation Kit Selection Guides

INSTA	INSTALLATION KIT												
Dout No.	Description	25,000 lbs				D	imensio	ns					
Part No.	Description	G.V.W.R.		A	В	C	D	E	F	G	Н		
70362	1988-1999 GM	•	in.	31/8	4 1/8	97/8	9 7/8	14	3	40 - 421/2	11/8	51/8	
	2500 Series Old Style		mm	79	105	251	251	356	76	1,016 – 1,080	29	130	

FOLDIN	FOLDING HITCH BALL											
Dart No	Description	25,000 lbs					Dim	ensions				
Fall NU.	Description	G.V.W.R.		A	В	C	D	E	F	G	Н	
75063	without safety		in.	12	97/8	14	97/8	31/2	10 ¹ /4	4	2 ⁵ /16	
10000	chain attachments	•	mm	305	251	356	251	89	260	102	59	
75064	with safety chain	•	in.	12	9 7/8	14	9 7/8	31/2	10 ¹ /4	4	2 ⁵ /16	
/ 5064	attachments as shown		mm	305	251	356	251	89	260	102	59	

Atwood Gooseneck Coupler Systems



Gooseneck Coupler Selection Guide

Part No.	Description	Rated		4	E	3	C		D	
	Description	Capacity lbs.	in.	mm	in.	mm	in.	mm	in.	mm
75025	Gooseneck Coupler	25,000	8 ¹ /4	210	1 ⁷ /8	48	2 ⁷ /8	73	9 ³ /8	238

Part No.	Description	Rated Canacity lbs		A B		C retracted		D extended		
		oupdoity iso:	in.	mm	in.	mm	in.	mm	in.	mm
75004	Gooseneck Coupler w/screw adjustable stem	25,000	5	127.0	24 ⁵ /8	625.5	3 ⁵ /8	92	13 ⁵ /8	346
75401	Gooseneck Coupler w/cross bolt drop stem	25,000	5	127.0	24 ¹ /8	612.8	3 ⁵ /8	92	13 ⁵ /8	346

Atwood 5th Wheel Hitches

Mini 5th Wheel Hitches and Retractable King Pin Selection Guides

Part No.	Description	Rated	ated A		B C		D		E	E F		G				
		Capacity lbs.	in.	mm.	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
75051	Dual Axis Mini 5th Wheel Hitch	32,000	6	152	13	330	10	254	9	229	12 ¹ /4	311	2 ⁵ /8	67	—	
75133	Retractable King Pin	32,000	12	305	17	432	15	381	7 ¹ /4	184	10	254	3 ³ /8	86	7 1/4	184

								В				
Dout No.	Description	Rated	A		retracted		extended					
Part NU.	Description	Capacity lbs.	in.	mm	in.	mm	in.	mm				
75032	Dual Axis Mini 5th Wheel Hitch, adjustable stem	32,000	24 ³ /4	629	12 ¹ /8	308	22 ¹ /8	562				
75410	Dual Axis Mini 5th Wheel Hitch with drop stem	32,000	24 ¹ /4	616	12 ¹ /8	308	22 ¹ /8	562				









Atwood Bevel Gears





Atwood Bevel Gears



KIT P/N	GEAR KIT DESCRIPTION	70227	70306	71138	85706	85707	87650	87939
25524	Jack Screw				2			
71258	5th Wheel		2					
75029	HD 5th Wheel - Sq Tube Jack	1				1		
75030	Standard Duty 5th Wheel			1	1			
81480	2000 lb Sidewind - Jack Screw	1					1	
85387	Manual Ball Screw Camper Jack			1				1
87108	Electric Ball Screw Camper Jack	1				1		

GEAR PART NUMBERS

