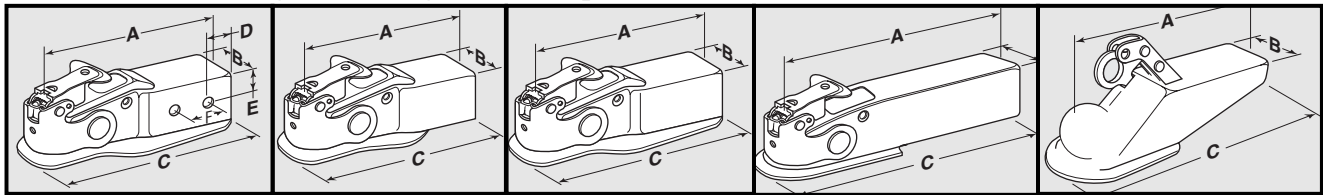


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The data presented in this publication is obtained from the most reliable sources, and is believed to be accurate as of the date of publication. Responsibility for typographical errors or omission of data cannot be assumed by the publishers. Data is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

Atwood Straight Tongue Couplers



80051, 80055, 80056

82311, 82315

80060

80186, 80082, 80083

80131

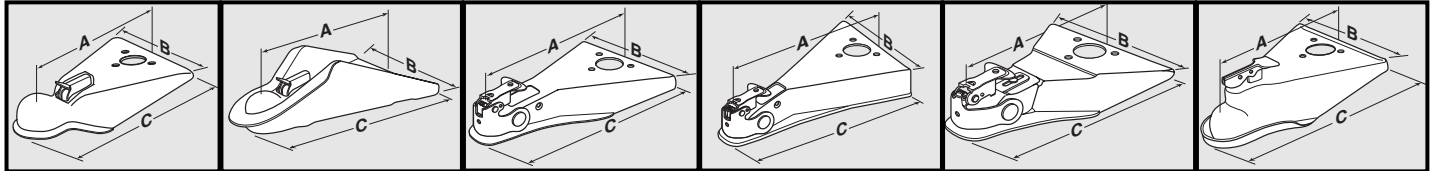
STRAIGHT TONGUE COUPLER SELECTION GUIDE

Part No.	Description	LATCH KIT	Rated Cap. lbs.	S.A.E Class	A		B*		C		D		E		F	
					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	9 1/4	235	—	—	—	—	—	—
82315	2" ball, weld-between, unpainted, zinc plated latch	15775	3,500	2	7 5/8	194	3	76	9 1/4	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	9 1/2	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	9 1/2	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

Thumb Latch Release Ball Clamp → Wrap-Around Yoke Style Latch → Classic Marvel Flip Latch Style



81911, 81912, 81915, 81916

82680**

80072, 84176, 84800

84035

80101

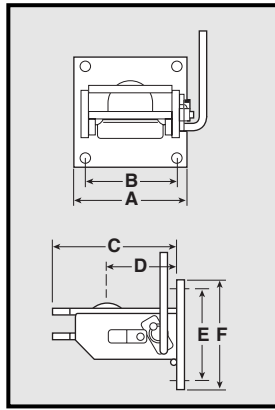
88007, 88010, 88555, 88600, 88000, 88005

A-FRAME COUPLER SELECTION GUIDE

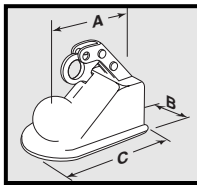
* Various aspects of design, including the latch handle design, are registered as a trademark of Atwood Industries, Inc.

Part No.	Description	LATCH KIT	Rated Capacity lbs.	Class	A		B		C	
					in.	mm	in.	mm	in.	mm
80072	2" ball, painted, weld-on, yoke style	15775	5,000	S.A.E. 3	12 3/8	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	13 3/8	340	10 3/8	264	14 7/8	378
84800	2" ball, painted, weld-on, yoke style	15775	6,000	S.A.E. 3	12 3/8	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	11 7/8	302
88600	2" ball, unpainted, weld-on, thumb-flip latch style	88051	8,000	S.A.E. 4	9 7/8	251	9 3/4	248	11 7/8	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	2 5/16" ball, painted, weld-on, thumb latch style	NA	10,000	S.A.E. 4	11	279	10 7/8	276	12 3/4	324
81915	2 5/16" ball, unpainted, weld-on, thumb latch style	NA	10,000	S.A.E. 4	11	279	10 7/8	276	12 3/4	324
81912	2 5/16" 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	2 5/16" ball, painted, weld-on, thumb latch style	NA	13,000	S.A.E. 4	11	279	10 5/8	270	13 1/8	333
88000	2" ball, OBSOLETE - OLD STYLE MARVEL	88050	** Top plate 82740 is packed with 82680 coupler. 82681 coupler is the same as 82680 except it is packed without a support plate. Top plate 22375 can also be used with 82680 or 82681 coupler if a Top Mount A-Frame Jack (5,000 lbs. max) is used in this application.							
88005	2 5/16" ball, OBSOLETE - OLD STYLE MARVEL	88060								

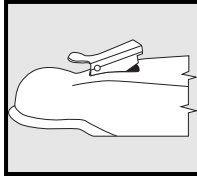
Atwood Specialty Couplers



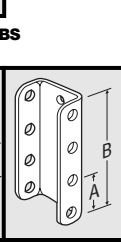
Flat Nose Coupler - **75074**



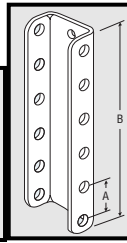
Adjustable - **80290 OBS**



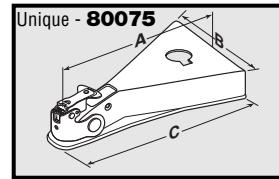
Adjustable - **81906***



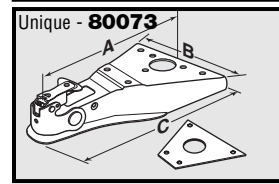
80355



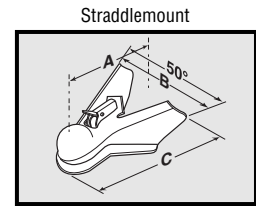
80308



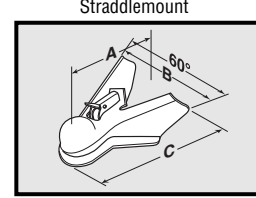
Unique - **80075**



Unique - **80073**



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



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

SPECIALTY COUPLER SELECTION GUIDE

Part No.	Description	LATCH KIT	Rated Cap. lbs.	S.A.E. Class	A		B		C		D		E		F	
					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	—	—	—	—	—	—
Mobile home only — 2⁵/₁₆" ball, straddlemount — thumb latch																
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	—	—	—	—	—	—
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	—	—	—	—	—	—

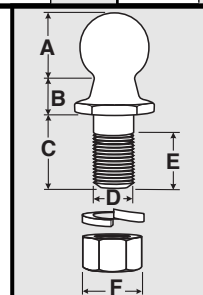
Atwood Hitch Balls

HITCH BALL SELECTION GUIDE

Part No.	Description	Rated Capacity lbs.	A		B		C		D		E		F	
			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	2 ¹ / 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.





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

LITERATURE NUMBER MPD 87297

LATCH REPLACEMENT

ENGLISH, FRANÇAIS (et Canada)

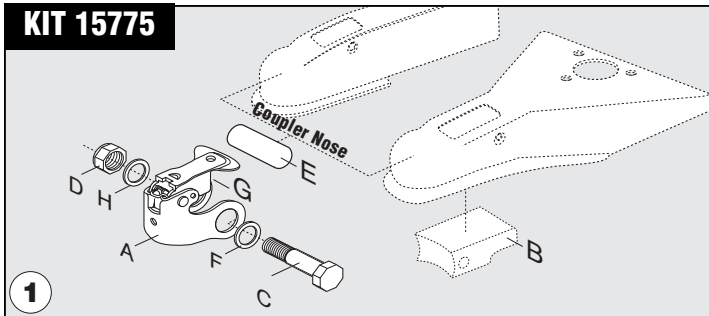
•Installation •Operation •Maintenance

Effective 10/10/06

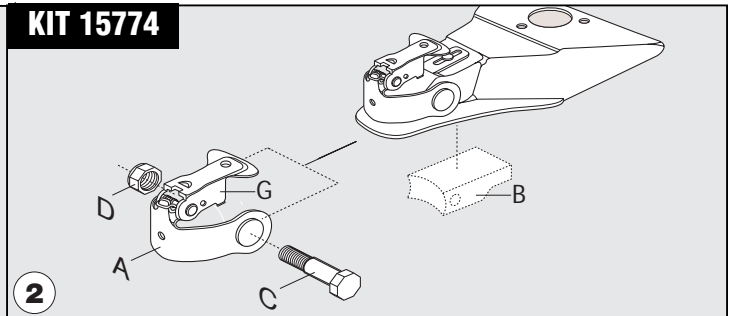
2" Yoke Style Coupler

2-5/16" Yoke Style Coupler

KIT 15775



KIT 15774



For complete coupler instructions consult MPD 87984.



WARNING

PERSONAL INJURY/PRODUCT DAMAGE

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



WARNING

PRODUCT DAMAGE

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

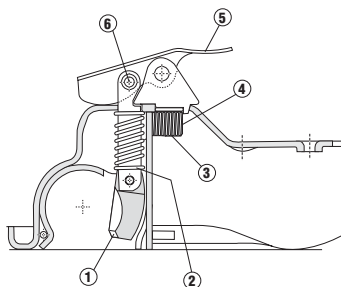
TO TAKE APART

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.
2. 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.

"Marvel"



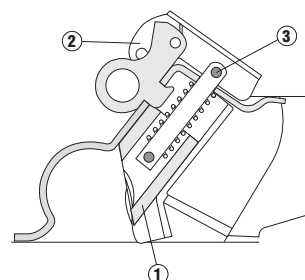
COUPLER REPAIR KITS 88060/88050

1. Lock and shoe assembly
2. Coupler spring
5. Handle
6. Roll pin

COUPLER REPAIR KITS 88061/88051

1. Lock and shoe assembly
2. Coupler spring
3. Retainer spring
4. Spring retainer
5. Handle
6. Roll pin

"John Deere"



COUPLER REPAIR KIT 07532

1. Plunger, link spring assembly
2. Cam and handle assembly
3. Rivet

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 into ball socket	Check for proper ball size. Check to see if jack is fully retracted. Insure release handle is open when inserting ball.
Broken release handle spring	Replace release handle and yoke assembly

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

CONSUMER MAINTENANCE CHECKLIST

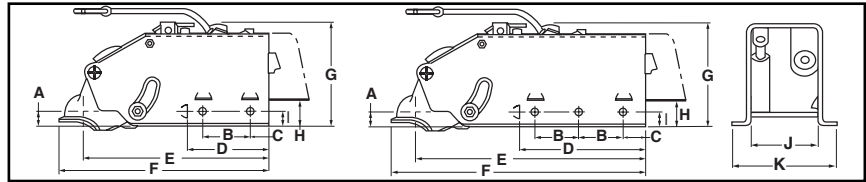
- **MONTHLY CLEAN AND GREASE.**
If the ball socket or ball clamp show any signs of unusual wear or deformation, the entire coupler should be replaced. The ball clamp is not replaceable.
- **REGULARLY CHECK THE HITCH AND BALL FOR WEAR.**
All mounting hardware on the hitch should be tight and any worn 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	TERMINOLOGY	DEFINITION
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.	Lock-out Lever	the device on the actuator that inactivates the brake so that the trailer can be backed up.
Ball Clamp	the device in the ball socket that retains the hitch ball.	Master Cylinder	the reservoir housed in the actuator that contains and supplies all of the brake fluid to the surge system.
Ball Socket	the nose casting of the actuator that receives the hitch ball.	Piston	the inside workings of the master cylinder and wheel cylinder that pump hydraulic fluid.
Bleeder Nut	the threaded nut on the wheel cylinder casting used in bleeding the brake system.	Push Rod	the heavy coiled rod that engages the inlet of the master cylinder.
Bleeding Brakes	the process in which the air is purged from the hydraulic system.	Release Handle	the thumb latching mechanism on the top of the actuator that opens and closes the ball clamp.
Boot	the protective external rubber seal of the wheel cylinder and master cylinder.	Shock Absorber	the gas filled piston in the actuator that smooths out the braking motion.
Brake Line	typically 3/16" steel tubing that transfers hydraulic fluid from the actuator to the foundation brakes.	Shoulder Bolt	the bolt that links the ball socket, shock absorber and push rod.
Brake Shoe	the steel web and attached asbestos lining that produce the friction against the drum for braking.	Surge Brake Actuator	the entire brake housing and its components that are attached to the tongue of the trailer.
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.	Surge Brake System	a hydraulic self-contained system of components that require forward motion of the trailer for braking.
Chucking	the term used to describe the condition of a jerky braking motion.	Uni-Servo Brakes	indicates that there is braking only in the forward motion of trailer. The pistons on the trailer brakes face forward.
Hold Down Springs	the springs that retains the shoes to the backing plate of the foundation brake.	Wheel Cylinder	the casting on the foundation brake that transfers hydraulic pressure from the master cylinder to the brake shoes.

Atwood Surge Brake Actuators

Surge Brake Actuator Selection Guide



Part No.	Description	Rated Capacity lbs.	Class	Tongue Load (max.)		A	B	C	D	E	F	G	H	I	J	K
82543	2" ball, painted	6,000	S.A.E. 4	900 lbs.	in.	7/8	3	1 1/8	5 1/8	1 19/16	13 3/16	6 5/8	1 11/16	1 1/16	3 1/16	4 5/8
					mm	22	76	29	130	294	335	168	43	17	78	117
83153*	2" ball, painted, zinc plated latch	6,000	S.A.E. 4	900 lbs.	in.	7/8	3	1 1/8	5 1/8	1 19/16	13 3/16	6 5/8	1 11/16	1 1/16	3 1/16	4 5/8
					mm	22	76	29	130	294	335	168	43	17	78	117
84132	2" ball, zinc plated	6,000	S.A.E. 4	900 lbs.	in.	7/8	3	1 1/8	5 1/8	1 19/16	13 3/16	6 5/8	1 11/16	1 1/16	3 1/16	4 5/8
					mm	22	76	29	130	294	335	168	43	17	78	117
84133*	2" ball, zinc plated, zinc plated latch	6,000	S.A.E. 4	900 lbs.	in.	7/8	3	1 1/8	5 1/8	1 19/16	13 3/16	6 5/8	1 11/16	1 1/16	3 1/16	4 5/8
					mm	22	76	29	130	294	335	168	43	17	78	117
88730	2" ball, zinc plated* for disc brakes	6,000	S.A.E. 4	900 lbs.	in.	7/8	3	1 1/8	5 1/8	1 19/16	13 3/16	6 5/8	1 11/16	1 1/16	3 1/16	4 5/8
					mm	22	76	29	130	294	335	168	43	17	78	117
88740	2" ball, painted for disc brakes	6,000	S.A.E. 4	900 lbs.	in.	7/8	3	1 1/8	5 1/8	1 19/16	13 3/16	6 5/8	1 11/16	1 1/16	3 1/16	4 5/8
					mm	22	76	29	130	294	335	168	43	17	78	117
83000	2" ball, painted, weld-on only	8,000	S.A.E. 4	1,000 lbs.	in.	7/8	3	1 1/8	8 1/8	14 9/16	16 3/16	6 5/8	1 11/16	—	3 1/16	4 5/8
					mm	22	76	29	206	370	411	168	43	—	78	117
83005	2" ball, painted, bolt-on	8,000	S.A.E. 4	1,000 lbs.	in.	7/8	3	1 1/8	8 1/8	14 9/16	16 3/16	6 3/4	1 13/16	1 1/16	3 1/16	4 5/8
					mm	22	76	29	206	370	411	171	46	17	78	117
83010	2" ball, zinc-plated, bolt-on	8,000	S.A.E. 4	1,000 lbs.	in.	7/8	3	1 1/8	8 1/8	14 9/16	16 3/16	6 3/4	1 13/16	1 1/16	3 1/16	4 5/8
					mm	22	76	29	206	370	411	171	46	17	78	117
80366	2" ball, zinc plated* bolt-on for disc brakes	8,000	S.A.E. 4	1,000 lbs.	in.	7/8	3	1 1/8	8 1/8	14 9/16	16 3/16	6 5/8	1 11/16	—	3 1/16	4 5/8
					mm	22	76	29	206	370	411	168	43	—	78	117
80360	2" ball, painted*, weld-on for disc brakes	8,000	S.A.E. 4	1,000 lbs.	in.	7/8	3	1 1/8	8 1/8	14 9/16	16 3/16	6 5/8	1 11/16	—	3 1/16	4 5/8
					mm	22	76	29	206	370	411	168	43	—	78	117

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

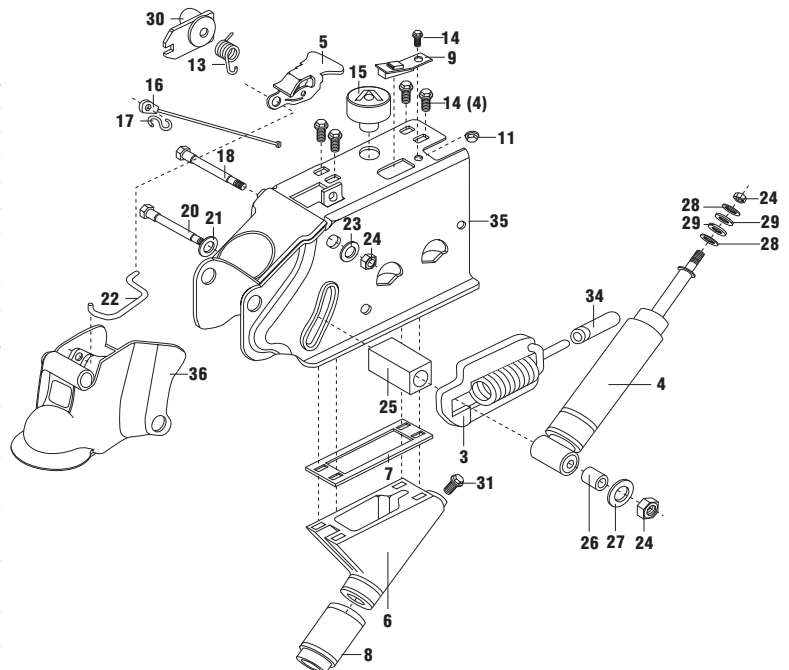
* Compatible with Kodiak® and Reliable® Disc Brake Systems

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	REPLACEMENT KIT INCLUDES
85830	SHOCK ABSORBER	4, 24-2 EA. 28-2 EA. 29-2 EA.
87478	CAP	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 DRUM BRAKE APPLICATION	3, 6, 7, 8, 9, 11, 14-5 EA., 16, 17, 24-2 EA. 34
85841	MASTER CYLINDER DRUM BRAKE APPLICATION	6, 7, 14-4 EA. MUST ORDER 84258 SEPARATELY
85838	MASTER CYLINDER-PUSH ROD KIT DISC BRAKE APPLICATION	3, 6, 7, 8, 9, 11, 14-5 EA., 16, 17, 24-2 EA. 34, 15
85840	MASTER CYLINDER DISC BRAKE APPLICATION	6, 7, 14-4 EA. 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
85837	MC PUSH ROD KIT FOR DRUM BRAKES	

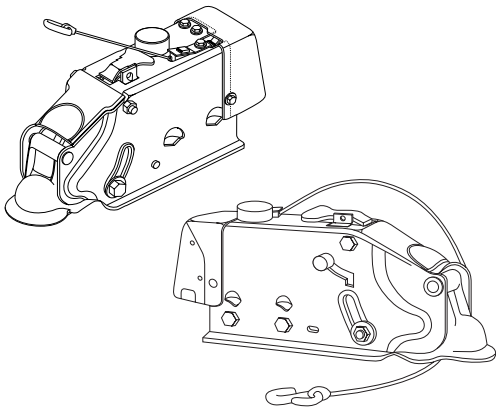


Surge Brake Actuators

6000 & 8000 LB RATING DRUM AND DISC

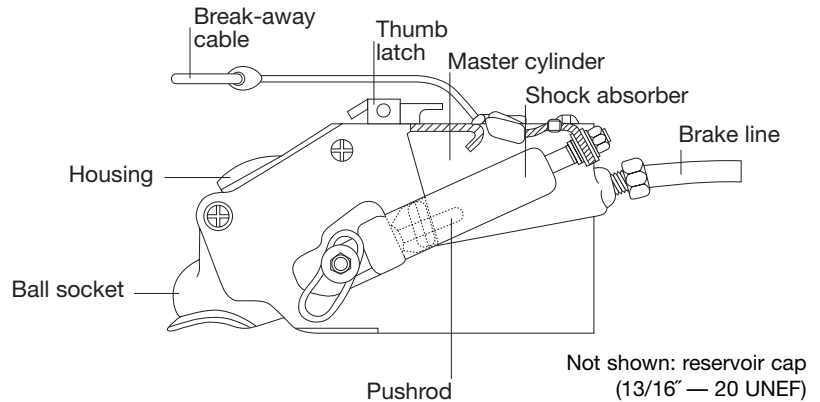
- Fits 3" channel, 2" ball
- Stamped ball clamp
- High gain braking
- Painted or zinc-plated
- Serviceability
- Bolt-on or weld-on
- Simple thumb latch
- Brake lock-out lever
- Break-away cable
- Equalizer hitch compatible
- Disc actuators are available with electric back-up solenoid.

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

IDENTIFICATION



SEQUENCE OF OPERATION:

Tow vehicle applies brakes



Ball socket pivots



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



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.

$$A = 2\text{--}1/2"$$

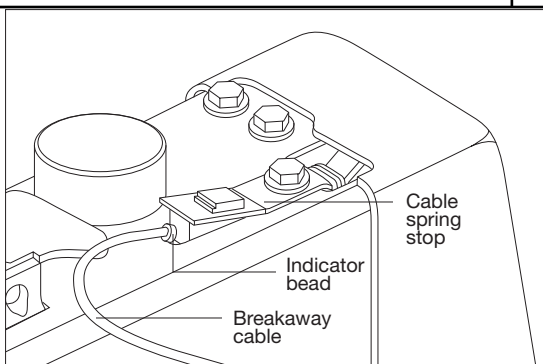
$$A \text{ divided by } C = \text{ratio} = 1.11 \text{ to } 1.00$$

$$B' \text{ to } B^2 = 2\text{--}1/4"$$

$$C = \text{movement of } B1 \text{ as ball moves backward } (B2) = 2\text{--}1/4"$$

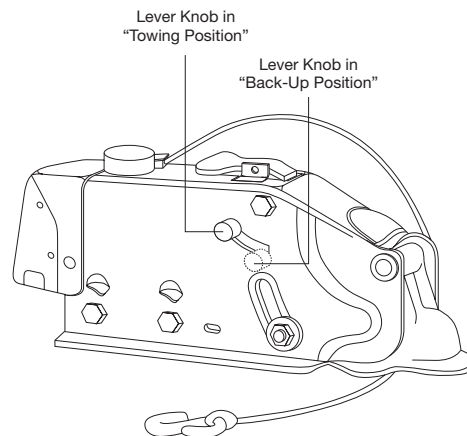
"High Gain" means that more force goes into master cylinder than applied at ball. As ball moves backwards, "C" becomes smaller and "A" stays the same. Ratio becomes larger, thus high gain in force.

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



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.



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.

Surge Brakes

TROUBLE SHOOTING GUIDE

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 SOLUTION

Squeaking, Clatter or Chucking

Lack of hitch ball lubrication	Lubricate with conventional automotive grease or commercial lubricant made for hitch balls
Binding linkage & pivots on 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

Release Handle Does Not Close Easily

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

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

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

Towing Vehicle Shaking Back and Forth

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

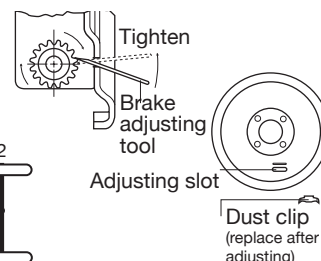
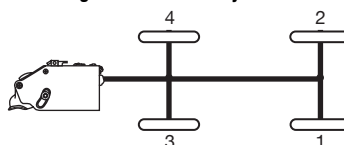
Trailer brakes should be adjusted after the first 1,000 miles of use and at least every 2,000 miles of use thereafter. In addition, trailer brakes should also be inspected for excessive wear, replace lining if necessary and adjusted at the beginning of each season or yearly. Wheel bearings and seals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

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.

- 7" single axle 10 notches
- 7" tandem axle 5 notches
- 10" single axle 8/10 notches
- 10" tandem axle 4/5 notches

Bleeding the Brake System



- 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.
2. 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.
8. 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.

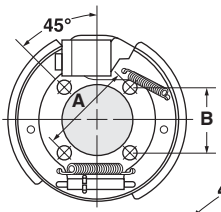
Atwood Foundation Brakes

Foundation Brake Selection Guide

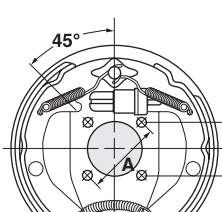
Part No.	Description	Wheel-Hub Drum Group +	A		B		Pack
			in.	mm	in.	mm	
7" BRAKES							
85740	7" x 1 ³ / ₄ " left and right hand, painted	1,800*	4 B.C.	102	3	76	Box
84181	7" x 1 ³ / ₄ " left hand, painted	1,800*	4 B.C.	102	3	76	Bulk
84186	7" x 1 ³ / ₄ " right hand, painted	1,800*	4 B.C.	102	3	76	Bulk
10" BRAKES							
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" 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.

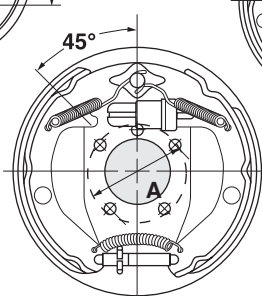
7" Brake
85740, 84181, 84186



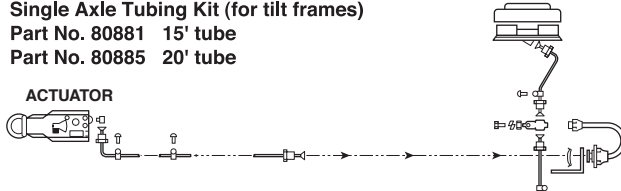
10" Brake
85735, 83572, 84195, 84260, 84265



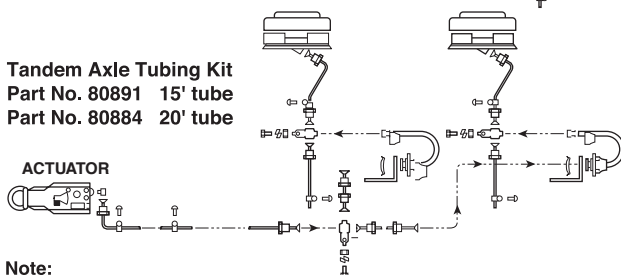
12" Brake
83958, 83959,
83960, 83961



Single Axle Tubing Kit (for tilt frames)
Part No. 80881 15' tube
Part No. 80885 20' tube



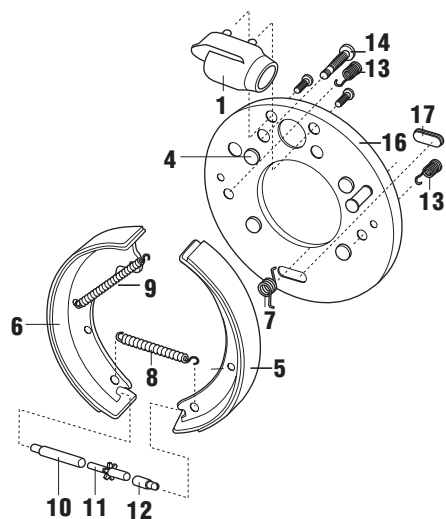
Tandem Axle Tubing Kit
Part No. 80891 15' tube
Part No. 80884 20' tube



Note:
Part No. 80910 for trailers with torsion springs

Atwood Uni-Servo Brakes

7" BRAKES



84210

NEW STYLE Wheel Cylinder Kit (one axle only)

- 1 (1) WHEEL CYLINDER, R.H.
- 1A (1) WHEEL CYLINDER, L.H..
- 15 (4) 5/16" - 18 x 3/4" CAP SCREW
- 14 (2) 5/16" - 18 FLAT HEAD SCREW

19861

Shoe & Lining Kit (one axle)

- 5 (2) PRIMARY SHOES WITH LINING
- 6 (2) SECONDARY SHOES WITH LINING

23400

Spring Kit (one axle)

- 8 (2) ADJUSTING SCREW SPRINGS
- 9 (2) SECONDARY RETRACTOR SPRINGS
- 7 (1) TORSION SPRING R.H.
- 7A (1) TORSION SPRING L.H.
- 13 (4) SHOE HOLD DOWN SPRINGS

18191

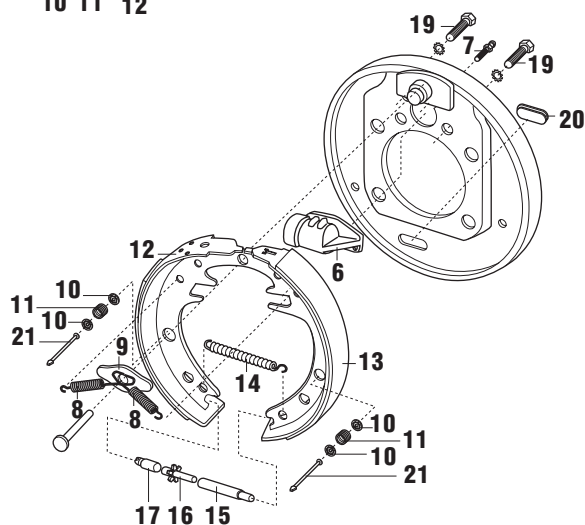
Dust Clip

23401

Adjusting Screw, Pivot Socket & Nut Assembly

- 10 (1) NUT
- 12 (1) PIVOT SOCKET
- 11 (1) ADJUSTING SCREW

10" BRAKES



21669

Wheel Cylinder Replacement Kit (1 axle)

- 6 (1) WHEEL CYLINDER, R.H.
- 6 (1) WHEEL CYLINDER, L.H.
- 19 (4) 5/16" - 8 x 1/2" MOUNTING SCREWS

19862

Brake Shoe and Lining Kit (1 axle)

- 12 (2) PRIMARY SHOES WITH LINING
- 13 (2) SECONDARY SHOES WITH LINING

23385

Brake Shoe Spring & Hold Down Kit (1 axle)

- 8 (4) PRIMARY AND SECONDARY RETRACTOR SPRINGS

- 14 (2) ADJUSTING SCREW SPRINGS
- 21 (4) SHOE HOLD DOWN PINS
- 11 (4) SHOE HOLD DOWN SPRINGS
- 10 (8) SHOE HOLD DOWN WASHERS

18499

(2) Shoe Guide Plate

23401

Adjusting Screw, Pivot Socket & Nut Assembly

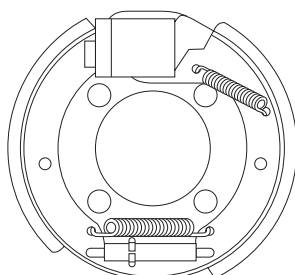
- 15 & (1) NUT AND SCREW
- 16 (1) PIVOT SOCKET
- 17 (1) PIVOT SOCKET

18191

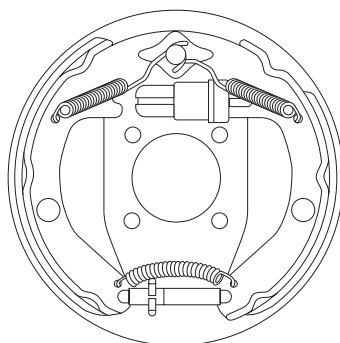
(2) Dust Clip

- 7 (2) Bleeder Nut - not available separately

Foundation Brakes



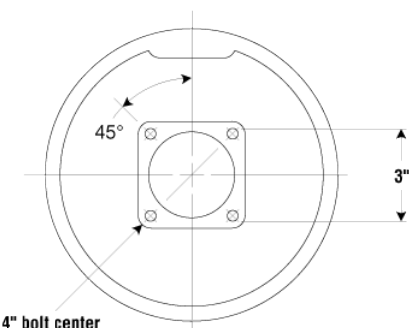
7" Foundation Brake



10" Foundation Brake

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 zinc-
dichromate 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



Piston of wheel cylinder extends and forces shoe to drum



Primary shoe engages drum

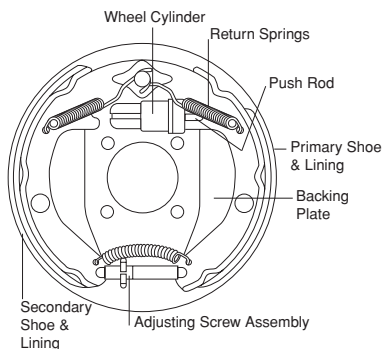


Secondary shoe engages drum

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.

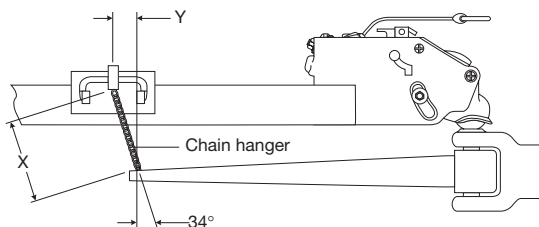


EQUALIZER HITCH & SWAY CONTROL

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.

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

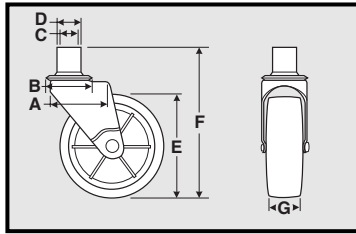
NOTE: There is NOT a sway control available that is compatible with the Atwood surge actuator. The sway controls that are available prevent safe and sufficient braking with our actuator.



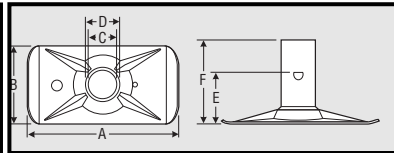
PROPER TOWING CHECKLIST

- ✓ 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.

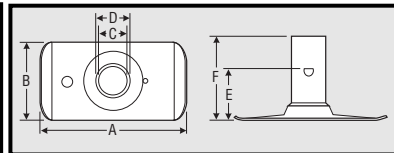
Atwood Casters and Feet



80259, 80552, 84036



82650, 82660



80260, 80261

CASTERS AND FEET SELECTION GUIDE

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).

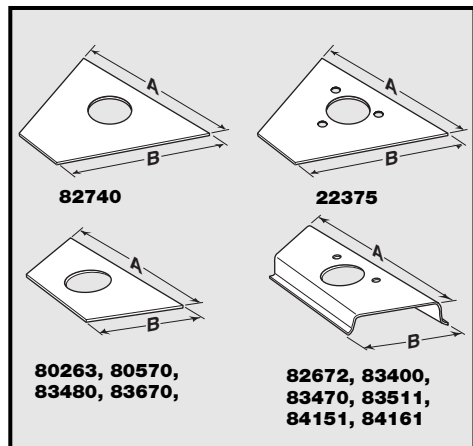
Part No.	Description	Support Capacity lbs.	Fits Jack RAM Sizes	A		B		C = I.D.		D = O.D.		E		F		G	
				in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
80203	Duraplas caster, zinc plated	1,000	1 3/4" O.D.	3 3/8	86	2	51	1 3/4	44	2	51	6	152	9	229	2	51
80259	Duraplas caster	1,000	1 3/4" O.D.	3 3/8	86	2	51	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	4 3/4	121	2	51	2 1/4	57	2 5/8	67	—	—	—	—
82660	Steel foot w/extension	6,000	2" O.D.	8	203	4 3/4	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	2 1/8	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 Capacity lbs.	A		B		Hole Diameter	
			in.	mm	in.	mm	in.	mm
83480	Top Support Plate	—	6	152	3 1/2	89	2.30	58
83670	Support Plate	—	8 3/4	222	3 1/2	89	2.28	58
80263	Bottom Support Plate	1,000	8 3/4	222	3 1/2	89	2.05	52
80570	Bottom Support Plate	—	8 3/4	222	3 1/2	89	2.23	57
82740	Top Support Plate	—	10 1/8	257	7 3/8	187	2.32	59
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
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
82672	Bottom Support Plate	8,000	10 1/4	260	3 3/8	86	2.32	59
84151	Bottom Support Plate	11,000	7 3/4	197	3 3/8	86	2.32	59
84161	Bottom Support Plate	11,000	10 1/4	260	3 3/8	86	2.32	59



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 casting 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.

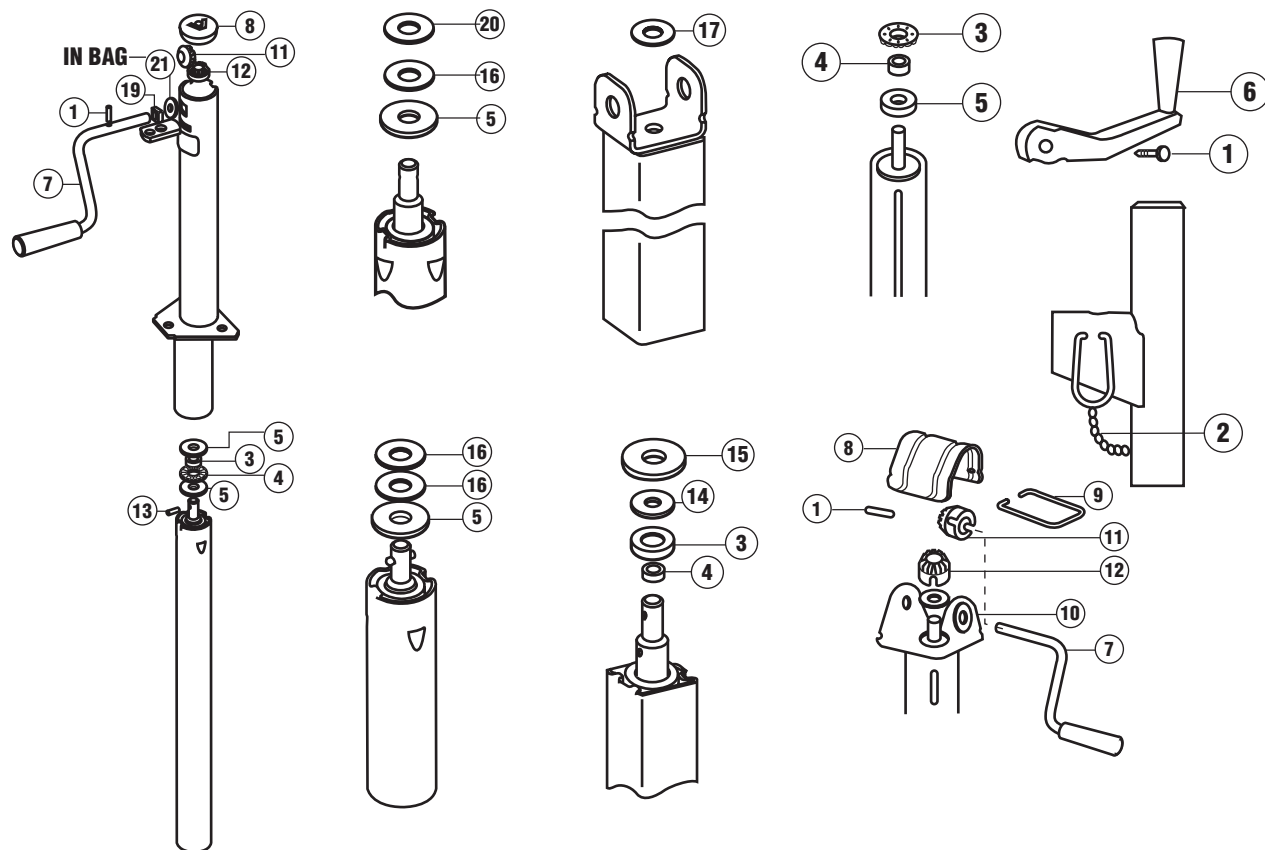
FINISH

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	

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

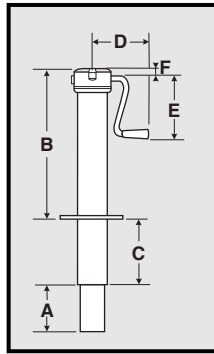
HANDLE KITS					
ITEM#	DESCRIPTION	82700	25526	83401	
6	Handle	1			
7	Handle		1	1	
1	Rivet .88 x .24	1			
1	Roll Pin 1.25 x .15		1		
10	Metal Bushing		1		
NS	IOM (not shown)	1			

CAP KITS					
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		

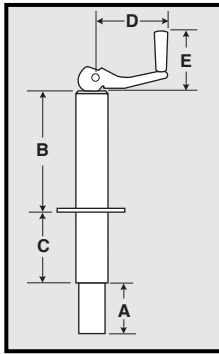
MISCELLANEOUS ITEMS		
ITEM#	DESCRIPTION	
2	5/8" Pin, Chain & Clip	85411
2	7/8" Pin & Chain	85719

REPAIR KITS					
ITEM#	DESCRIPTION	80454	80455	80465	
8	Small Cap	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	

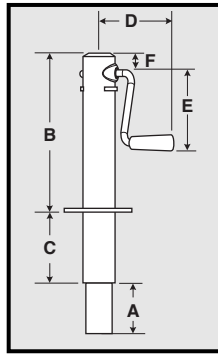
Atwood A-Frame Jacks



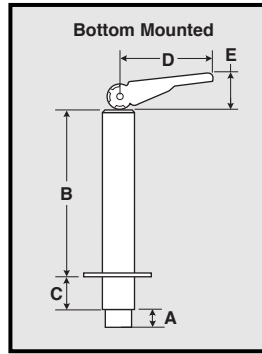
84033



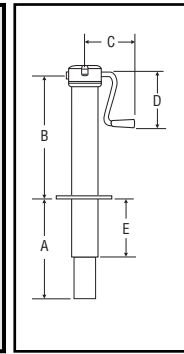
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80022, 80156,
80391, 80401,
80402, 80405,
80406, 84034**



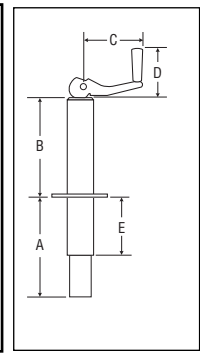
**80000, 80160,
80265, 87510**



**82642, 82721,
83391, 84146**



**80340,
80341,
81041,
84223**



**80250,
83270,
83275,
84155**

OBSOLETE

OBSOLETE

A-FRAME JACK SELECTION GUIDE

Part No.	Finish	Support Capacity lbs.	WIND		A				B		C		D		E		F		Outer Diameter	
					retracted		extended													
			Top	Side	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	Inner ram	housing
84033	Paint, fast-travel for 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		•	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		•	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*		•	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		•	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		•	85/8	218	24	610	143/4	375	65/8	168	65/8	168	6	152			15/8	17/8
81041	Painted (c) OBSOLETE	2,000*		•	91/8	232	231/8	587	141/4	361	65/8	168	65/8	168	7	178			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			15/8	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			15/8	17/8
84223	Painted (c OBSOLETE	2,000		•	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.

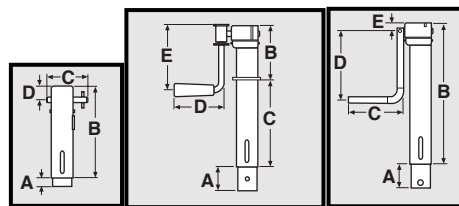
Atwood A-Frame Jacks - CONTINUED

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	x	84120	80552	82650	82660
80016	82700	x	x	81416	x	x	80203	80260	80261
80156	82700	x	x	81416	x	x	80203	80260	80261
80009	82700	x	x	81416	x	x	80259	80260	80261
80022	82700	x	x	81416	x	x	80203	80260	80261
80000	x	x	x	x	80454*	80457	80259	80260	80261
80160	x	x	x	x	80454*	80457	80203	80260	80261
80265	x	x	x	x	80454*	80457	80259	80260	80261
84034	82700	x	x	81416	x	x	80552	82650	82660
80401	82700	x	x	81416	x	x	80552	82650	82660
80402	82700	x	x	81416	x	x	84036	x	x
87510	x	x	x	x	80465*	80456	80552	82650	82660
80391	82700	x	x	81417	x	x	x	x	x
83391	N/A	85806/85656	x	81417	x	x	80552	82650	82660
82642	N/A	87139/85656	x	81417	x	x	80552	82650	82660
82721	N/A	87139/85656	x	81417	x	x	80552	82650	82660
84146	N/A	87108/85656	x	81417	x	x	80552	82650	82660
80250	82700	x	25524	81416	x	x	NLA	82655	82665
80340	25526	x	25524	81416	x	25525	NLA	82655	82665
80341	25526	x	81410	81418x2	x	25525	NLA	82655	82665
81041	25526	x	x	81416	x	84120	80552	82650	82660
83270	82700	x	x	81418	x	x	NLA	82655	82665
83271	82700	x	x	81418	x	x	NLA	82655	82665
83275	82700	x	x	81418	x	x	NLA	82655	82665
84155	82700	x	x	81418	x	x	NLA	82655	82665
84223	25526	x	81410	81418	x	84120	80552	82650	82660

* Includes handle

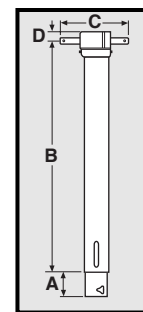
Atwood Specialty Jacks



80150

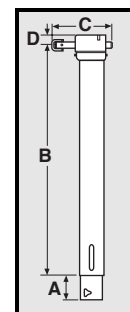
80109, 80123

80117



80096, 81459

80325-OBS



80134

80315-OBS

SPECIALTY JACK SELECTION GUIDE

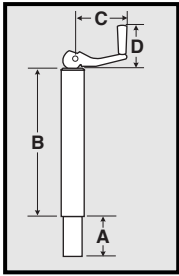
Part No.	Description	Support Capacity lbs.	Side Wind	A				B		C		D		E		Outer Diameter	
				retracted		extended											
				in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	inner ram	housing
80134	Universal drive	500	•	1.9	48	15.6	396	18.6	472	4.9	125	0.8	20	—	—	1.77	2.00
80096	Shaft drive	1,000	•	1.9	48	15.6	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	•	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	•	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.

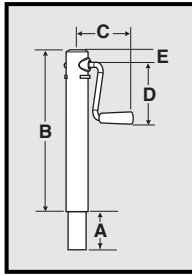
SPECIALTY JACK REPAIR KITS

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

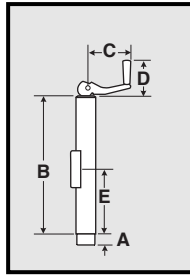
Jack Screws



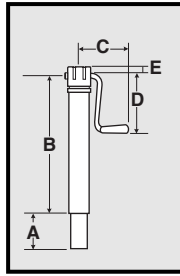
**80029, 80036,
80167, 80177,
80188, 80380**



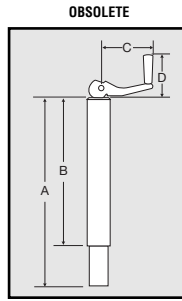
80126, 80172



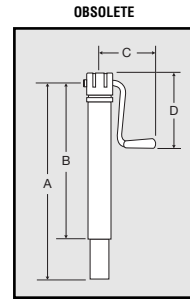
82522



81141



**80220, 80230,
80239, 80240,
81310**



80311, 80321

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).

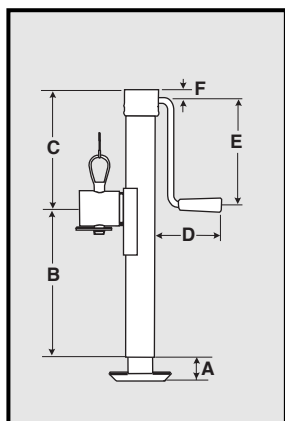
JACK SCREW SELECTION GUIDE

Part No.	Finish	Support Capacity	WIND		A				B		C		D		E		Outer Diameter	
					retracted		extended											
					Top	Side	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
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	●		21 3/4	553	35 5/8	905	19 5/8	499	6 3/8	161	5 1/4	133			1 5/8	17/8
80230	Painted-OBSOLETE	1,000	●		19	483	30 3/4	780	17	431	6 3/8	161	5 1/4	133			1 5/8	17/8
80239	Painted-OBSOLETE	1,000	●		13	330	21 1/2	545	12 3/8	314	6 3/8	161	5 1/4	133			1 5/8	17/8
80240	Painted-OBSOLETE	1,000	●		13	330	21 1/2	545	11	280	6 3/8	161	5 1/4	133			1 5/8	17/8
80311	Painted-OBSOLETE	1,000		●	20 3/8	519	34 1/8	867	18 5/8	472	6 5/8	167	6 5/8	167			1 5/8	17/8
80321	Painted-OBSOLETE	1,000		●	14	355	22 1/4	566	12 1/8	310	6 5/8	167	6 5/8	167			1 5/8	17/8
81310	Painted-OBSOLETE	1,000	●		18 5/8	472	30 3/4	780	17	431	6 3/8	161	5 1/4	133			1 5/8	17/8

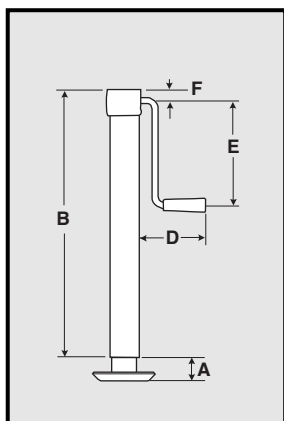
JACK SCREW REPAIR KITS

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

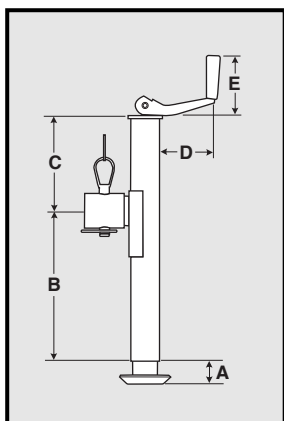
Atwood Square Tube Jacks



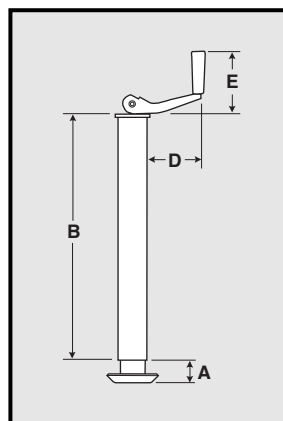
80407



80408



80409



80410

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

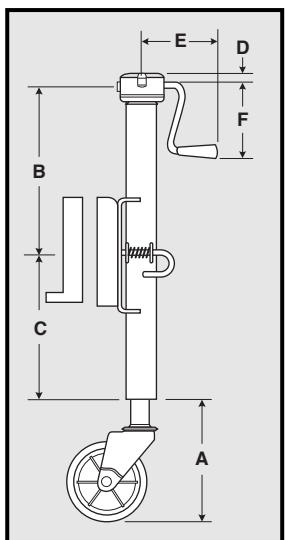
SQUARE TUBE JACK SELECTION GUIDE

Part No.	Description	Support Capacity lbs.	WIND		A				B		C		D		E		F		Outer Dimension	
					retracted		extended													
			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	●		1	25.4	17	432	14.38	365	8.25	210	5.0	127	5.5	140	—	—	2.25	2.5
80410	Without bracket	5,000	●		1	25.4	17	432	22.63	575	—	—	5.0	127	5.5	140	—	—	2.25	2.5

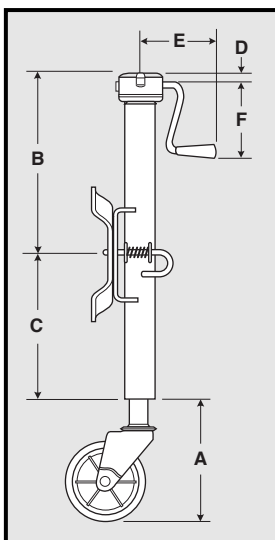
SQUARE TUBE JACK REPAIR KITS

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

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. single 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.)

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.

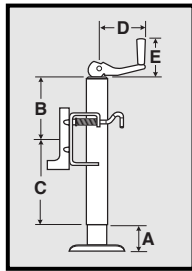
CAPACITY DEFINITION: The working, or work, capacity is the maximum load that the jack can support for castoring and easy lifting of a fully loaded trailer.
The supporting, or support, capacity is the maximum vertical load that the jack can support.

BOLT SWIVEL JACKS SELECTION GUIDE

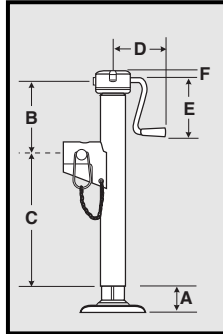
The supporting, or support, capacity is the maximum vertical load that the jack can support.																		
Part No.	Finish	Work Capacity lbs.	Support Capacity lbs.	Side Wind	A				B		C		D		E		F	
					retracted		extended											
					in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
84015	Zinc plated, 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

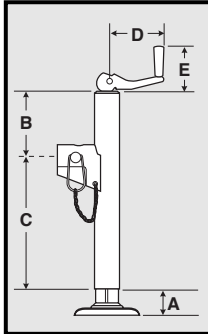
Atwood Implement Swivel Jacks



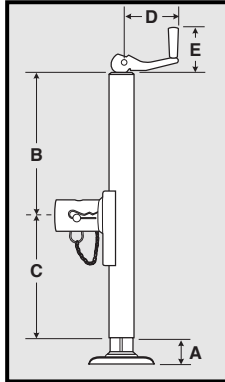
80518



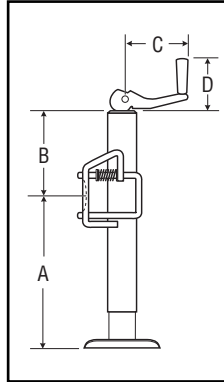
82332, 82333



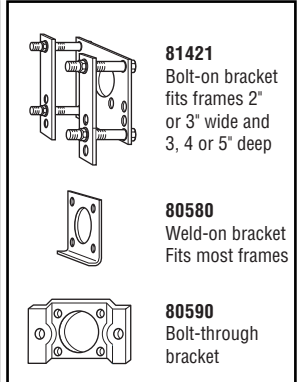
**80459, 81264,
81353, 82340**



82471



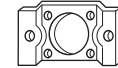
**80273, 80294,
80452, 80453**



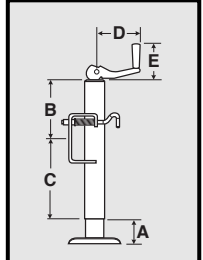
81421
Bolt-on bracket
fits frames 2"
or 3" wide and
3, 4 or 5" deep



80580
Weld-on bracket
Fits most frames

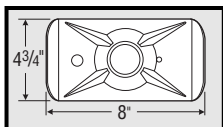


80590
Bolt-through
bracket

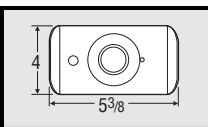


**80519, 80522,
80523**

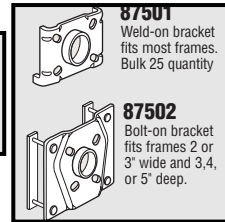
NON-REPLACEABLE WELDED FOOT



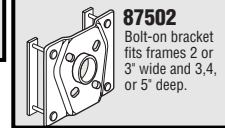
Large Foot



Small Foot



87501
Weld-on bracket
fits most frames.
Bulk 25 quantity



87502
Bolt-on bracket
fits frames 2 or
3" wide and 3, 4,
or 5" deep.

SUPPORT CAPACITY DEFINITION:

The maximum vertical load that 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).

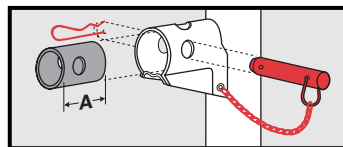
IMPLEMENT SWIVEL JACK SELECTION GUIDE

Part No.	Painted housing, zinc plated ram and foot	Support Capacity lbs.	Top Wind	Side Wind	A				B		C		D		E		F	
					retracted		extended		in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
					in.	mm	in.	mm										
Tubular Swivel Jack																		
80459	Jack only, order bracket 81271	2,000	●		1.3	33	11.3	287	3.8	97	10.4	264	5.8	147	5.3	135	—	—
81264	Jack only, order bracket 81271	2,000	●		3.2	81	18.3	465	14.3	363	11.0	275	5.8	147	5.3	135	—	—
81353	Jack only, order bracket 81271	2,000	●		1.3	33	15.8	401	6.1	155	13.6	345	5.8	147	5.3	135	—	—
82340	Jack only, order bracket 81271	2,000	●		3.2	81	18.3	465	12.2	310	10.0	254	5.8	147	5.3	135	—	—
82332	Jack only, order bracket 81271	2,000		●	0.9	23	10.9	277	4.8	122	10.7	272	6.8	173	6.4	163	1.0	25
82333	Jack only, order bracket 81271	2,000		●	3.1	79	17.3	439	13.3	338	10.9	277	6.8	173	6.4	163	1.0	25
82471	Jack only, order bracket 82500	5,000	●		0.4	10	15.1	384	14.5	368	10.6	269	5.8	147	5.3	135	—	—
Retaining Ring Swivel Jack																		
80522	w/o bracket, Lrg. foot	1,000	●		1.7	43	16.9	429	6.0	152	13.2	335	5.8	147	5.3	135	—	—
80523	w/o bracket, Lrg. foot	1,000	●		1.2	30	11.3	287	3.3	84	10.5	267	5.8	147	5.3	135	—	—
80518	w/ weld-on bracket, Sml. foot	2,000	●		0.9	23	11.0	279	3.4	86	10.7	272	5.8	147	5.3	135	—	—
80519	w/o bracket, Sml. foot	2,000	●		0.9	23	11.0	279	3.4	86	10.7	272	5.8	147	5.3	135	—	—
OBSOLETE																		
80273	Painted w/ zinc ram & foot	1,000	●		115/8	296	213/4	553	33/8	85	63/8	162	51/2	140	—	—		
80294	Painted w/ zinc ram & foot	1,000	●		147/8	379	30	762	6	152	63/8	162	51/2	140	—	—		
80452	Painted w/ zinc ram & foot	2,000	●		115/8	296	213/4	553	33/8	85	63/8	162	51/2	140	—	—		
80453	Painted**	2,000	●		115/8	296	213/4	553	33/8	85	63/8	162	51/2	140	—	—		

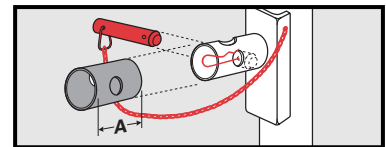
IMPLEMENT SWIVEL JACK REPAIR KITS

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

All Atwood Swivel Jacks must use Atwood Mounting Brackets.



81271 Tubular Mount Bracket Only



82500 Tubular Mount Bracket Only

85411 Pin and Lanyard Kit

86493 Pin and Lanyard Kit

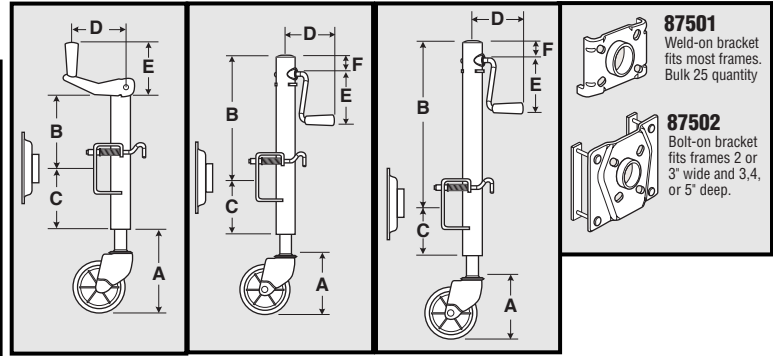
TUBULAR MOUNT BRACKETS

Part No.	Description	A		I.D.		O.D.		PIN SIZE	
		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

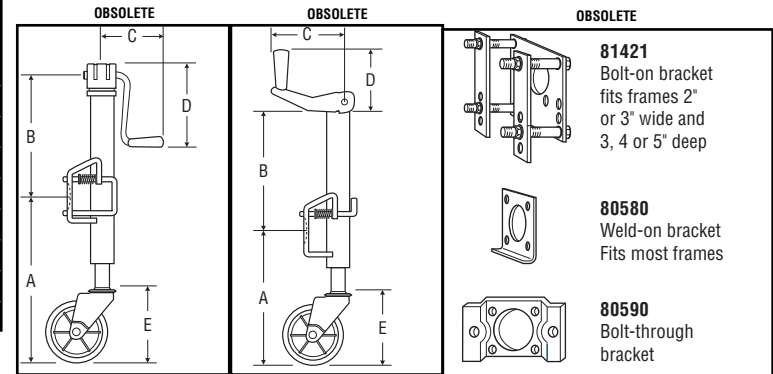
Atwood Retaining Ring Swivel Jacks

RETAINING RING & DOUBLE LOCK PIN SWIVEL JACK REPAIR KITS

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



80041*, 80042, 80043 80132, 80149*, 87535, 87690, 87743, 87761* 80124, 80057, 80179*



81413, 83171, 84200, 84205, 84250, 84255 80302, 84290

RETAINING RING SWIVEL JACKS WITH CASTER SELECTION GUIDE

Part No.	Description	Work Capacity lbs	Support Capacity lbs.	Top Wind	Side Wind	A				B		C		D		E		F	
						retracted		extended											
						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		•	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	•		12 7/8	327	21 3/8	543	6	152	6 3/8	162	5 1/2	140	6 3/4	172	OBSOLETE	
81413	Zinc plated, w/ caster	500	800		•	12 7/8	327	23	584	9 5/8	244	6 5/8	168	6 5/8	168	6 3/4	172	OBSOLETE	
83171	Zinc plated, w/ caster	1,000	1,000		•	11 1/4	286	25 3/8	644	15 5/8	398	6 5/8	168	6 5/8	168	6 3/4	172	OBSOLETE	
84200	Zinc plated, w/ caster*	500	800		•	12 7/8	327	23	584	9 5/8	244	6 5/8	168	6 5/8	168	6 3/4	172	OBSOLETE	
84205	Zinc plated, w/ caster*	1,000	1,000		•	11 1/4	286	25 3/8	644	15 5/8	398	6 5/8	168	6 5/8	168	6 3/4	172	OBSOLETE	
84250	Zinc plated, w/ caster	1,000	1,000		•	11 1/4	286	25 3/8	644	15 5/8	398	6 5/8	168	6 5/8	168	6 3/4	172	OBSOLETE	
84255	Zinc plated, w/ caster	500	800		•	12 7/8	327	23	584	9 5/8	244	6 5/8	168	6 5/8	168	6 3/4	172	OBSOLETE	
84290	Zinc plated, w/ caster*	500	800	•		12 7/8	327	21 3/8	543	6	152	6 3/8	162	5 1/2	140	6 3/4	172	OBSOLETE	

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.

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.



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

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 adequate rated jack has been used
 Jack 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

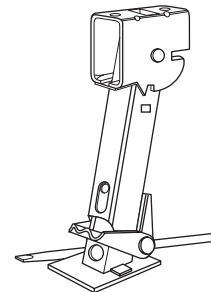
Atwood Stabilizer Jacks

STABILIZER JACK SELECTION GUIDE

Model No.	Part No.	Painted	Work capacity	Support capacity	Retracted		Extended	
					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	Individual 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	Retracted		Extended		Maximum Vertical Load	Weight
		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

Effective: 9/11/06

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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 or down	If Loctite® found, replace with new 1/4-20 x 3" screw and two lock washers. If bolt unavailable, clean present bolt and hole with wire buffing wheel. Inspect bolt
Jack runs intermittently	

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

MOTOR CLUTCH ENGAGES

Normal if jack leg is at fully retracted or extended position	None, but let go of switch when you hear the clutch
Worn worm gear	Replace jack ram
Dirty inner ram tube	Clean ram tube and coat with light coat of silicon spray
Bent inner ram	Replace inner ram
Clutch faulty	Replace motor
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

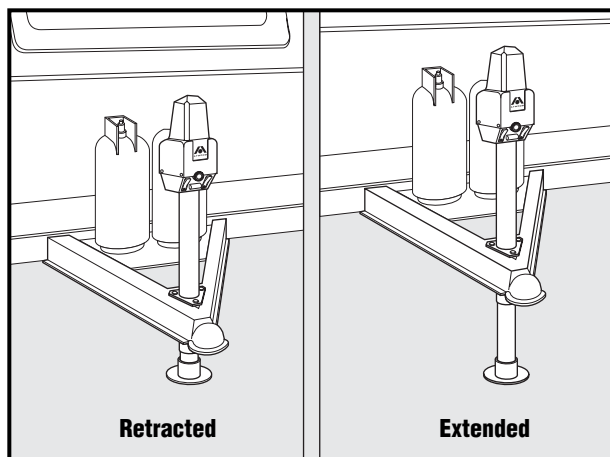
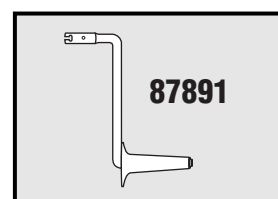
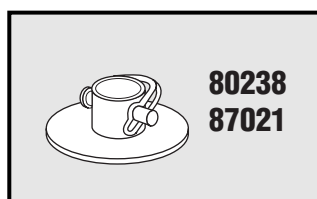
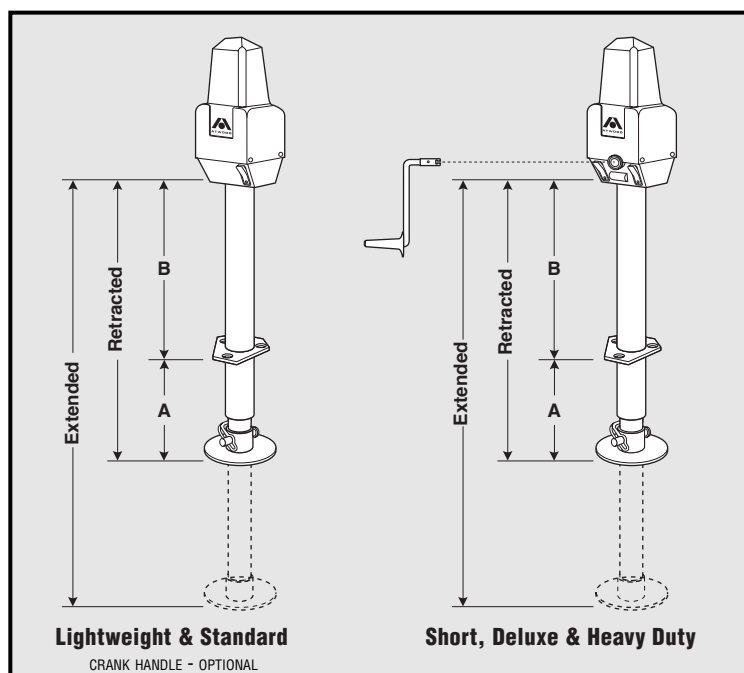
Loose wires on the ON/OFF switch	Secure wire connection
Bad light bulb	Replace bulb

AMP DRAW

Range of motor	8-45 amps
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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

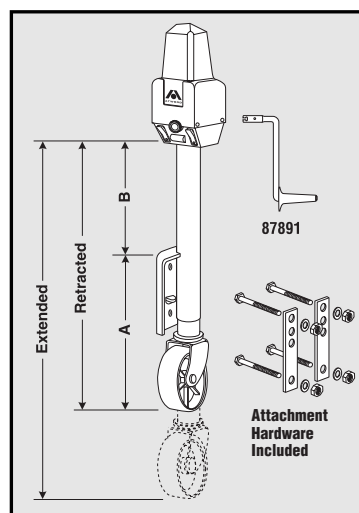


POWER JACK SELECTION GUIDE

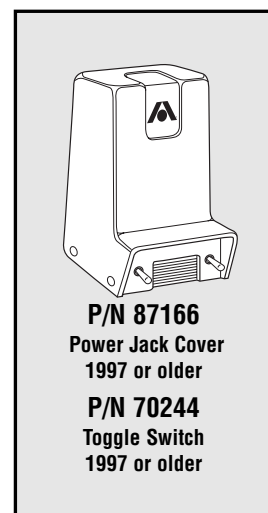
POWER JACK													
Part No.	Description	Rate of Travel	A		B		Retracted		Extended		Capacity		Coupler Ball Size
			in.	mm	in.	mm	in.	mm	in.	mm	lbs.	kg	
80236	Lightweight Power Jack	10" per minute	10 1/8	257.2	14 3/4	374.7	24 7/8	631.8	39 1/4	997	1,500	680	2
80511	Standard Power Jack	10" per minute	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	39 1/4	997	1,000	1134	2 5/16

SHIPPING SPECIFICATIONS—POWER JACKS

Product	Shipping Wt.		Carton 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 / PIÈCES 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 Rondelle de blocage
5	75367	75367	75625	75625	75625	75625	Motor and Terminals 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 Pignon 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 Arbre d'entraînement
11	87573	87573	87597	87597	87597	87597	Lower Cover 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 Bouchon de l'orifice
15	80237	80512	87489	87500	87559	N/A	Jack Hsing & Ram Asy 16" trvl Enveloppe du vérin et corps du cric à course de 16 po
16	N/A	N/A	87847	87847	87847	87847	Washer Support Support de rondelle
17	70229	70229	70667	70667	70667	70667	Pin / Tige
18	87568	87568	87598	87598	87598	87598	Ground Wire 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
22	N/A	N/A	87599	87599	87599	87599	Jumper Wire & Fuse 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	87891	87891	87891	87891	87891	87891	Manual Drive Handle Manette de commande manuelle
26	70269	70269	70269	70269	N/A	70269	Cotter Pin Goupille fendue
27	80238	87021	87021	87021	87021	--	Round Foot Pad Coupelle ronde
28	87709	87709	87709	87709	70215	87709	Clevis Pin Axe de chape
29	87077	87077	N/A	N/A	NA	N/A	Hex Drive Nut Écrou de commande hexagonal
30	87569	87569	N/A	N/A	N/A	N/A	Fuse Wire Fil du fusible
31						87150	Bracket / Patte
32						84037	Caster / Roue pivotante

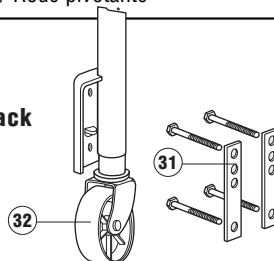
*912 type T5 12 candle power

*912 type T5 12 candelas

▲Buss Type AGC-30 amp fuse

▲Buss type AGC-30 à fusible

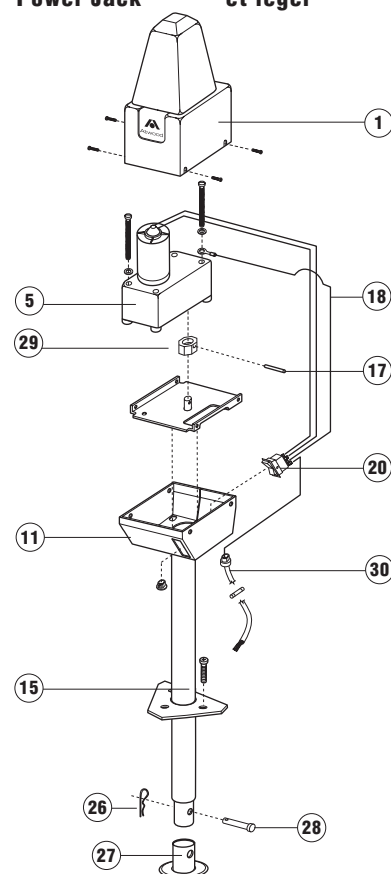
Marine Power Jack



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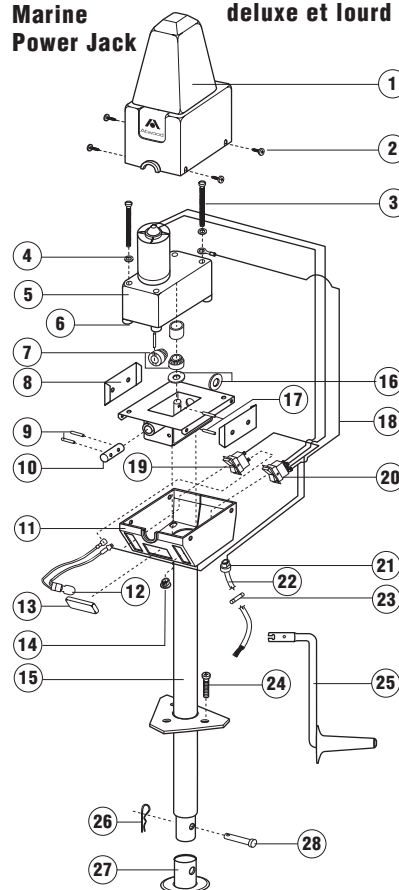
Standard & Lightweight Power Jack

Cric électrique service normal et léger



Short, Deluxe, Heavy Duty & Marine Power Jack

Cric électrique service court, deluxe et lourd





DuraLeg Center Mount Jack

Atwood DuraLeg® Selection Guide

Atwood DuraLeg					
Part Number	Description	Leg Capacity		Leg Weight	
		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.



CAUTION

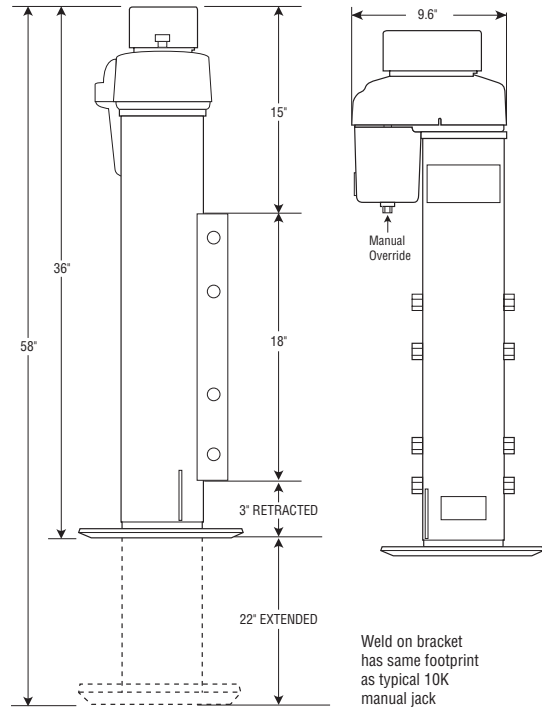
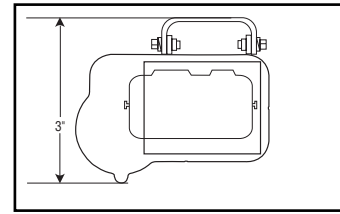
PERSONAL INJURY/PRODUCT DAMAGE

- 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.



Weld on bracket has same footprint as typical 10K manual jack

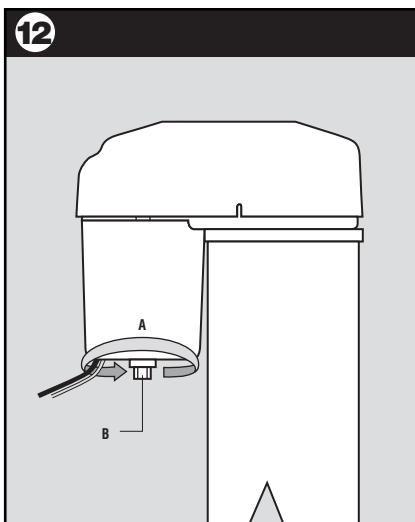
TIP:

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.



WARNING PERSONAL INJURY

- 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

Remote Control Electric Ball Screw Camper Jacks

TROUBLE SHOOTING GUIDE

Effective: 9/11/06

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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

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 devices Move other radio frequency 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 operation Turn 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 Do not exceed 8 amps while extending or retracting jacks.
- With load Less than 25 amp draw to lift 2,200 lbs at 12 VDC.

Atwood Truck Camper Jacks

Truck Camper Jack Selection Guide

Model	Part No.	Pure (Arctic) White	New White	8' or shorter campers (1500 lbs. or less)	campers exceeding 8' length
REMOTE CONTROL JACKS (set of four (4) jacks only)					
Electric Ball Screw	80491	●		●	●
Electric Ball Screw	80492		●	●	●
Heavy Duty Ball Screw	80411		●	●	●
Heavy Duty Ball Screw	80417	●		●	●
JACKS (set of four (4) jacks only)					
Electric Ball Screw	80488	●		●	●
Electric Ball Screw	80489		●	●	●
Heavy Duty Ball Screw	80412	●		●	●
Manual Ball Screw	84371	●		●	●
Manual Ball Screw	84376		●	●	●
Acme Screw	84241		●	●	
Acme Screw	84246	●		●	
HARDWARE/BRACKET KITS for wide front, narrow rear with lower clamps for rear jacks					
Electric Ball Screw	85930		●	●	●
Electric Ball Screw	85964	●		●	●
Manual Ball Screw	85925		●	●	●
Manual Ball Screw	85927	●		●	●
Acme Screw	85966		●	●	
Acme Screw	85967	●		●	
HARDWARE/BRACKET KITS for wide front, wide rear with lower clamps					
Electric Ball Screw	85981		●	●	●
Electric Ball Screw	85983	●		●	●
Remote Electric	85984	●		●	●
Remote Electric	85985		●	●	●
Manual Ball Screw	85979		●	●	●
Manual Ball Screw	85982	●		●	●
HARDWARE/BRACKET KITS for wide front, wide rear without lower clamps					
Acme Screw	85969		●	●	
Acme Screw	85970	●		●	
HARDWARE/BRACKET KITS for narrow front, narrow rear with lower clamps					
Electric Ball Screw	85972	●		●	
Manual Ball Screw	85974	●		●	
SWING-OUT KITS for use with dual-wheel pick-ups					
All Pickup Jacks	85428		●		
All Pickup Jacks	85473	●			
RETROFIT KITS (Zinc plated ONLY) Retrofits onto existing Atwood jacks					
Electric Ball Screw	87357				
Remote Electric	87329				
REPLACEMENT PARTS - REMOTE CONTROL & ELECTRIC CMPR JCK					
Wireless Remote Control Kit	85441				
Handheld Wireless Remote	85442				
14' Phone Cable	85453				
Relay Controller	85439				
Activation Switch	85440				
Male Plug-Electric Cmpr Jck	87034				

Wireless Remote Control Kit—85441

The Remote Control Kit consists of the micro-processor unit with antennae, activation wall switch, cable connecting the unit to the wall switch, and handheld remote control.

Obsolete Wired Remote kits - 85449, 85451, 85444

No replacement parts available.

Must replace complete control kit with MPD 85441.



TO ORDER JACKS, KITS AND REPLACEMENT PARTS -

1. DETERMINE TYPE OF JACK

Hand Cranked Acme Manual Ball Screw
Electric Switched Remote Control

SEE SELECTION GUIDE ON LEFT

2. **COLOR CHOICE**.....New White or Pure White

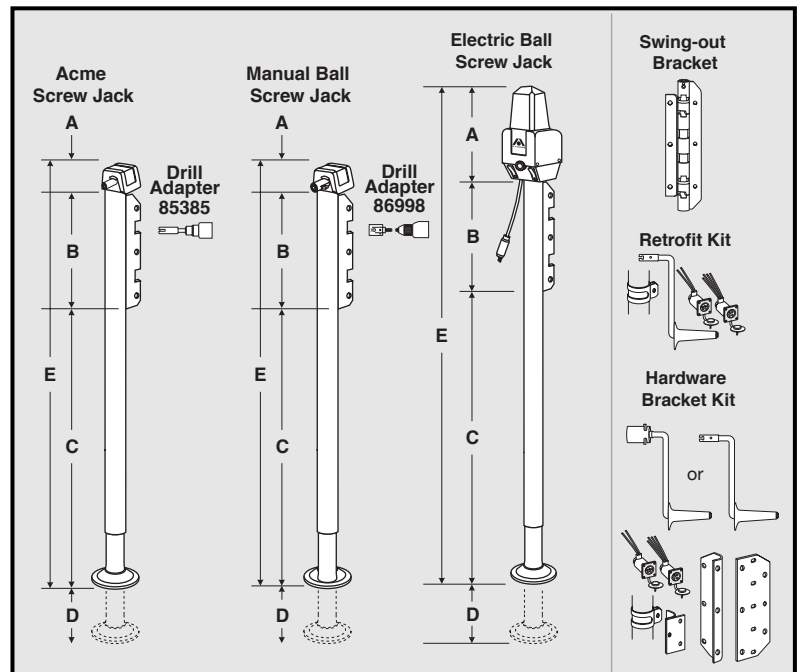
3. **REMOTE CONTROL**.....Order kit separately

4. **BRACKET KITS**.....Wide Front / Wide Rear

GVWR < 1500 lbs. (ONLY)..... Order Narrow Fronts / Narrow Rears
Interference in the camper rear

(generator or water heater compartment) .. Order Wide Fronts / Narrow Rears

Truck with Dual Rear Wheels.....Order Swingout Bracket Kits



Dimensions

Model	A		B		C		D		E	
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
Electric	11	279	13	330	32	813	33.5	851	56	1422
Manual	3	76	13	330	32	813	33.5	851	48	1219
Acme	3	76	13	330	32.5	826	27.5	699	48.5	1232

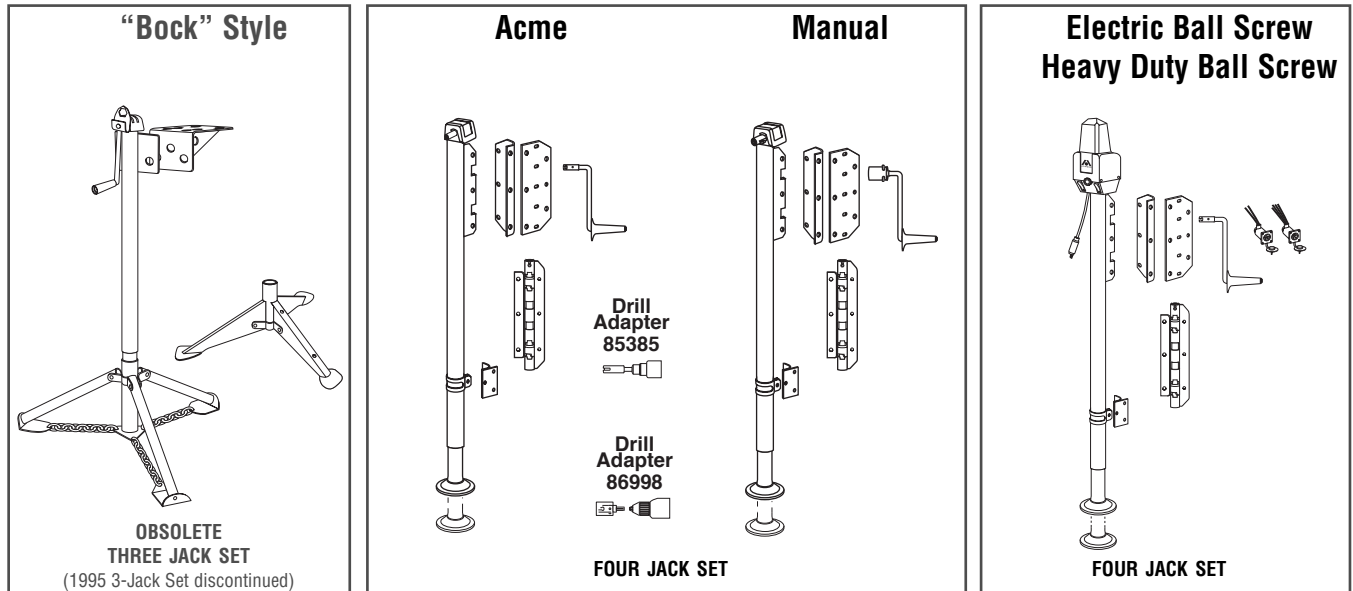
* Includes mounting brackets as specified, required bolts, washers and nuts, handle, wiring receptacles and installation/operation instructions.

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



SPECIFICATIONS	BOCK (OBS)			BALL SCREW*		ELECTRIC*			
	LIGHT-WT	STANDARD	HEAVY	ACME	MANUAL	REGULAR		REMOTE CONTROL	
						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 60% of camper weight N/N = Narrow Narrow USE ONLY IF GVWR<1500 LBS. WF/NR = Wide Front Narrow Rear						MOTOR AMP DRAW			
						Single leg, no load			
						Single leg, X <2000 lbs			
						All legs, 2500 lbs			
						7 amps			
						19 amps			
						40 amps			

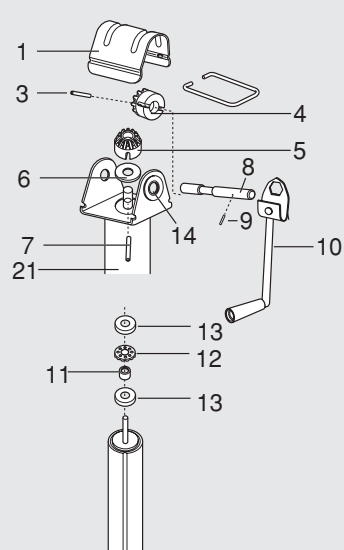
Shipping Specifications

Product	Shipping Wt.		Carton Length		Carton Width		Carton Depth	
	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

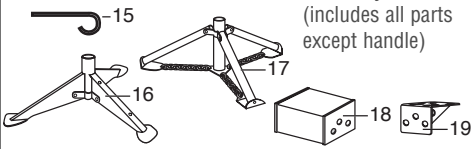
ELECTRICAL	SHIPPING WEIGHT	Switched Pure white	Switched New White	Switched Colonial White	Heavy Duty Switched Pure White	Remote Pure White	Remote New White	Heavy Duty Remote Pure White	Heavy Duty Remote New White
Set of 4	145 lbs	80488	80489	80487 - OBS	80412	80491	80492	80417	80411
Driver Front	37 lbs	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

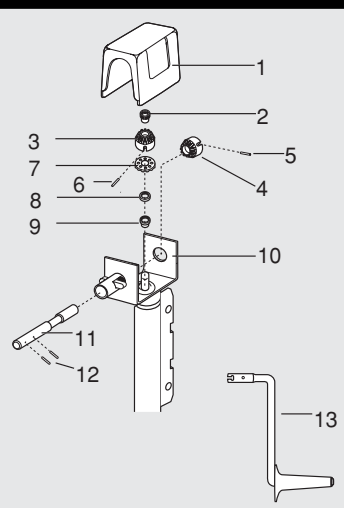
MANUAL	SHIPPING WEIGHT	Ball Screw Pure white	Ball Screw New White	Ball Screw Colonial White	Acme Pure White	Acme New White	Acme Colonial White	SHIPPING WEIGHT
Set of 4	108 lbs	84371	84376	84351 - OBS	84246	84241	84298 - OBS	78 lbs
Driver Front	27 lbs	81443	81439	81435 - OBS	81456	81452	81488 - OBS	20 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



OBSOLETE - "BOCK" STYLE CAMPER JACK - REPLACEMENT PARTS


ITEM #	LIGHT & STANDARD	HEAVY DUTY	DESCRIPTION	ITEM #	LIGHT & STANDARD	HEAVY DUTY	DESCRIPTION
1	25525	84120	Cover Kit	18	87318	87318	Dual Wheel Jack
			COVER				Ext. Brkt. Kit
			COVER CLIP				(2 brackets + hrdwr)
	25524	81480	Bevel Gear Kit	19	87293	87293	Mounting Bracket-Standard
3, 7			GEAR PINS	N/S	87281	87281	Mounting Bracket Hardware Kit
4, 5			BEVEL GEARS				BOLT 5/8" x 1"
6	23721		Thrust Washer				BRACKET NUT 5/8"
8	87189	87193	Shaft				Inner & Outer Ram Assembly
9	71132	71132	Crank Pin				(includes all parts except handle)
10	87258	87258	Crank				
11		25503	Felt Washer	N/S	81071	81020	
12		25504	Bearing				
13	25500	25500	Thrust Washer				
14	21693	21693	Bushing				
15	87258	87257	Carrier Ring				
16	87272		Tripod-stamped				
17	87264	87283	Tripod-chained.				

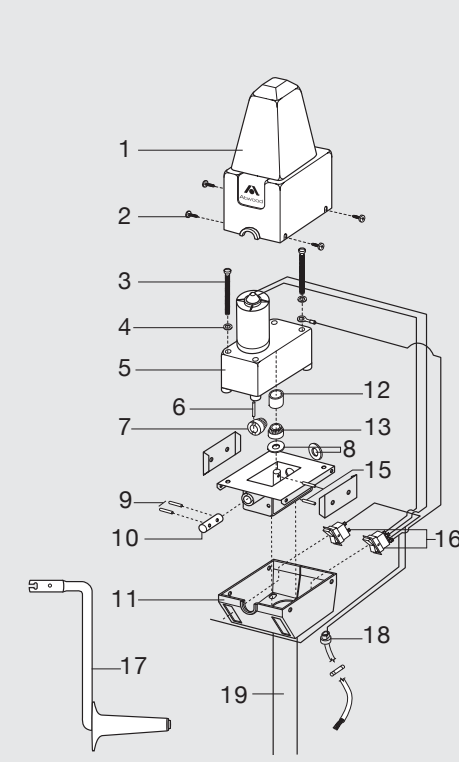




ACME & MANUAL BALL SCREW JACK - REPLACEMENT PARTS

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 (2 gears, 2 pins)	10	21693	21693	Bushings
2		87853	Knurled Nut	11	87378	87232	Drive Shaft
3	85706		Bevel Gear	12	70298	70298	Drive Pin
4	71138		Bevel Gear	13	87891	87030	Handle
5	71132		Gear Pin	BELOW	85385	86998	Drill Adapter
6	70229		Gear Pin	N/S	86470		Bearing
7	25504	25504	Thrust Bearing				





ELECTRIC & HEAVY DUTY BALL SCREW JACK - REPLACEMENT PARTS

ITEM #	PART #	DESCRIPTION UPPER COVERS	ITEM #	PART #	DESCRIPTION LOWER COVERS
1	87595	New White	11	87594	New White FRONT DS
	87663	Pure White		87684	New White FRONT PS
2	87057	Cover Screws		87665	Pure White FRONT DS
3	87942	Screw		87682	Pure White FRONT PS
4	86111	Lock Washer	12	87916	Cover Tube
5	75625	Motor	17	87891	Handle
6,7, & 13,15	87108	Bevel Gear Kit (2 gears, 2 pins)	18	87326	Strain Relief Bushing
16	87570	Motor Switch			
8	87847	Washer			
N/S	87912	Nylon Bushing			
9	70298	Driver Pin			
10	87941	Drive Shaft			

Standard Jack only-Lower Assembly for Electric (NOT AVAILABLE FOR HEAVY DUTY)

19 80460 Pure White

19 80449 New White

IN 1994 THE MOUNTING SYSTEM CHANGED -

The ring mounting with a one piece bracket changed to a strap mounting with two brackets.

NOTE: DS = Driver Side
PS = Passenger Side



SWING OUT BRACKET

Effective 10/26/04

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

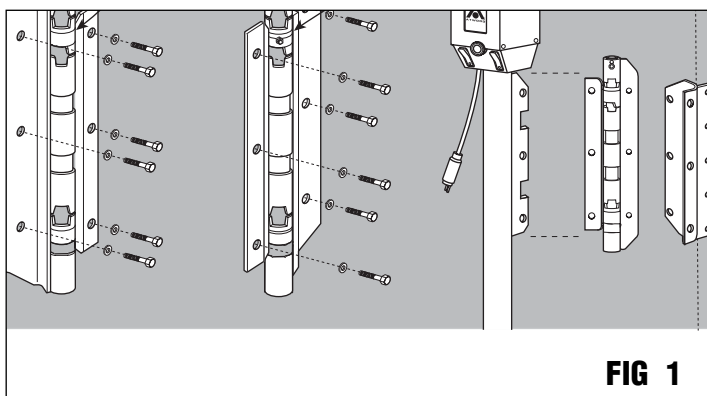
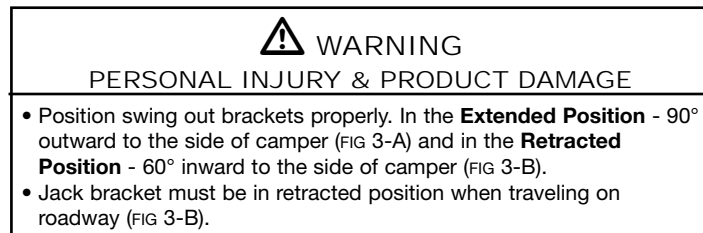
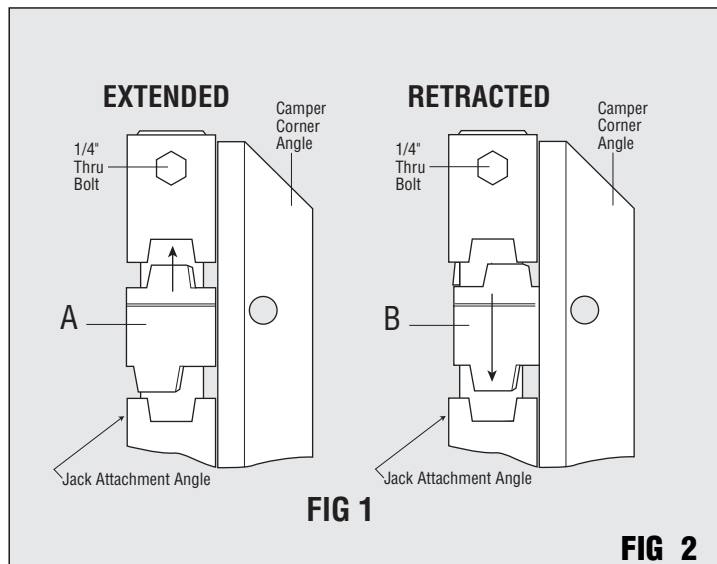


FIG 1

- 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**

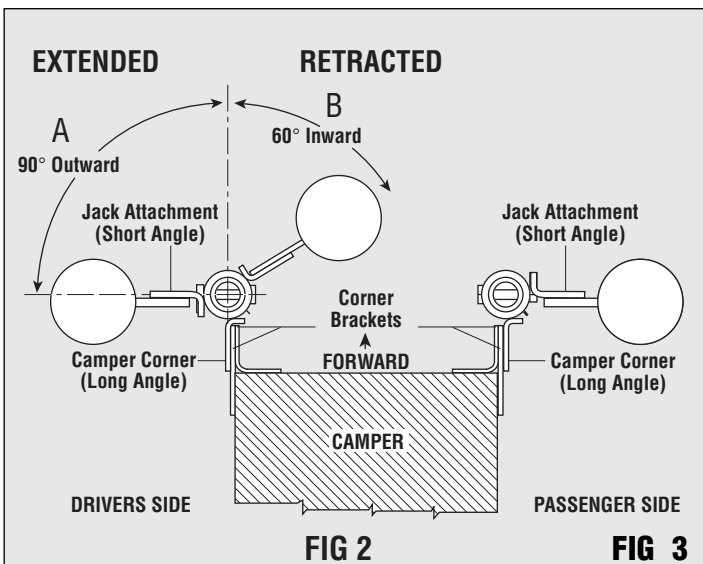
1. The end with the 1/4" thru-bolt must be at the top of the bracket during installation (FIG 2-A).
2. The angle bracket welded to the bushing with the thru-bolt attaches to the bracket already on the camper corner (FIG 1-C / 2-B).
3. Use three-3/8" x 1-1/2" long Grade 5 bolts and washers to attach each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



1. 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.

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).

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



CONTROL PAD LED INDICATORS

The control pad LED's indicate the following when 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**[®]**Atwood Mobile Products LLC**

1120 North Main Street • Elkhart, IN 46514

PHONE: 574•264•2131 **FAX:** 574•262•2550**INTERNET:** <http://www.atwoodmobile.com>**LITERATURE NUMBER MPD 66346****LEVELEGS™ SYSTEM****MANUALLY DUMP THE AIR BAGS**

Effective 9/15/05

For Atwood® LEVELEGS™ SYSTEM

Atwood Levellegs™ Levelers are intended for use on recreation vehicle motorhomes and trailers.

TO MANUALLY DUMP THE AIR BAGS

- a. Engine must be running.
- b. Transmission must be OUT of Park/Neutral.
- c. Parking brake must NOT be engaged.
- d. Atwood Levellegs keypad is NOT on. Lights inside the ON switch are not lit.
- e. Press the FRONT + REAR + ALL buttons to dump air from air bags. (Note: Air dump feature does need to be enabled for this feature to work.)
- f. Air bags dump in approximately 20 seconds and air bags refill 60 seconds from the start of the air dump.

For complete LEVELEGS™ SYSTEM instructions consult MPD 66166.



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PHONE: 574-264-2131 **FAX:** 574-262-2550
INTERNET: <http://www.atwoodmobile.com>

LEVELGS™ SYSTEM

TROUBLE SHOOTING GUIDE

Effective: 1/22/07

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
 1. 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:

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.
 2. 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.

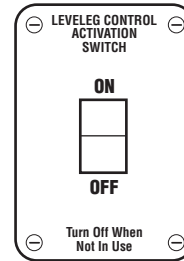
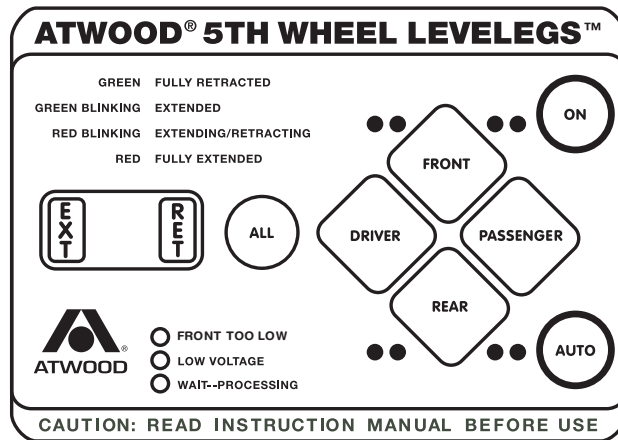
If step 3 does not fix the problem, individual levelers can be retracted by simultaneously pressing the "RET" button and the adjacent two (2) leveler buttons common to the leveler requiring retraction.

LEVELER CONTINUES TO "CLUTCH"


- To proceed,
 1. Press "ON". This will shut the warning alarm off.
 2. 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


ATWOOD® 5TH WHEEL LEVELERS

Unhooking From Tow Vehicle and Leveling RV		Hooking Up To Tow Vehicle Retraction of Levelers	
1. Park on solid ground without obstructions. Chock wheel and warn persons to stand clear of RV.		1. Retract slide rooms and warn all persons to stand clear of RV	
2. Do not extend slideouts until RV is leveled.		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	5. Set King Pin height (per hitch mfg.'s recommendations) for proper hitch connection	EXT/FRONT RET/FRONT
6. Set preferred King Pin height for unhooking hitch	EXT/FRONT RET/FRONT	6. Position tow vehicle, connect hitch and connect trailer wiring harness	
7. Detach Tow Vehicle from RV and move to safe distance.		7. Auto retract Landing Gear (front legs) once safely hitched.	RET/ALL FRONT
8. Auto extend rear levelers and level RV.	AUTO	8. Turn unit off and Activation Switch OFF	ON
9. Once RV is level, turn unit off and Activation Switch OFF.	ON	9. Remove chocks from wheels before towing.	

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".



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.

LANDING GEAR										
P/N	P/N Boxed*	Description	Screw Type	Leg Capacity		System Capacity		Version		Rate of Travel
				lbs.	kg.	lbs.	kg.	Electric	Manual	
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

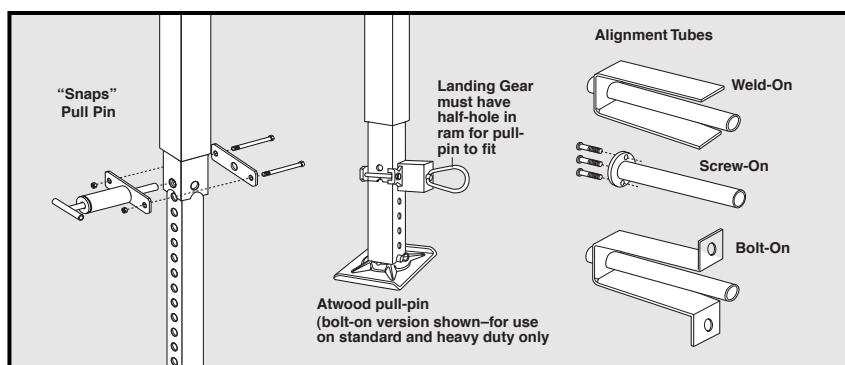
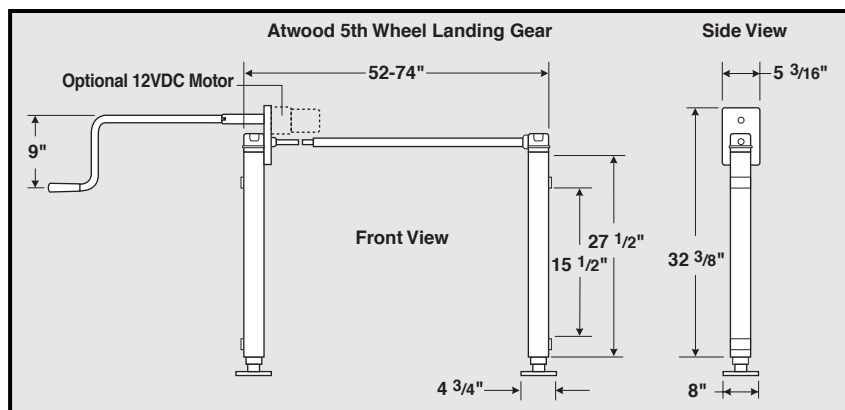
LEG CAPACITY DEFINITION: The leg capacity is the maximum vertical load the leg can support.

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

Accessories

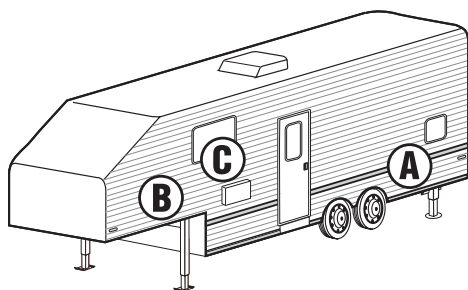
MOTORS	
Composite	Description
75391*	Single Motor Kit w/regular switch panel
75366	Two Motor Kit w/87701 Dual Motor Switch Panel
75367	Single Motor Kit no switch
75388	Single Motor Replacement Kit for Super Duty
75387	Single Motor Kit w/teeny switch panel
75406	6000 lb Motor and Switch
70334	Single Motor Kit - Direct Drive
HANDLE	
70920	Handle, One-piece 18"
70983	Handle, One-piece 26"
OPTIONAL PULL PIN	
70045	"Snaps" pull-pin, pair, bolt-on for use only with Super Duty legs
75360	Bolt-on, pair of pull-pins
ALIGNMENT TUBES	
75521	Alignment Tube, 21 3/4", screw-on
75529	Alignment Tube, 17 1/2", 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 BOX REPLACEMENT KIT	
70177	Service Kit for Heavy Duty
70180	Service Kit for Standard Duty

* UL Listed Marine Ignition Protected



CAPACITY DO NOT EXCEED THESE CAPACITIES		
Standard Duty - OBSOLETE		
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 ⚡⚡	3,000 lbs. per leg,	6,000 lbs. system
Super-Duty		
Electric ⚡⚡	4,000 lbs. per leg,	8,000 lbs. system
Direct Drive		
Electric ⚡⚡	4,000 lbs. per leg,	8,000 lbs. system
▼ without gear box ⚡ single motor		
▼▼ with gear box ⚡⚡ dual motor		

Atwood 5th Wheel Leveling Systems



Selection Guide

Part Number	Description	Leg Capacity		System Capacity	
		lbs	Kg	lbs	Kg
ATWOOD LEVELLEGS (individual)					
66302	7.5K Levelleg	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
CONTROLLERS					
87701	Dual Switch Panel	Controls Front Only			
85476	Remote Control - 2 Motor	Controls Front Only			
85480	Remote Control - 4 Motor	Controls All Four Legs			

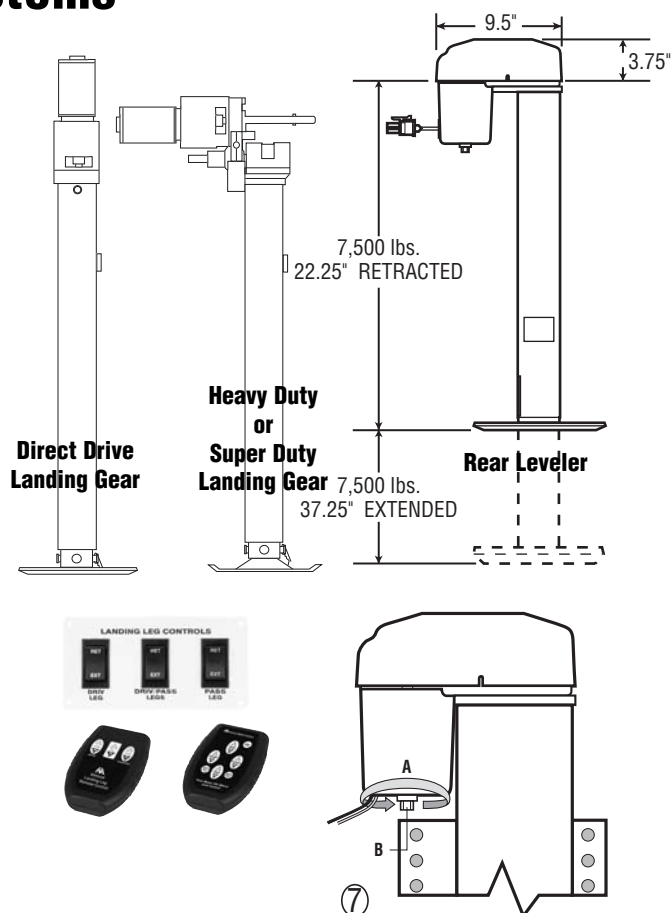
MAINTENANCE

- Before use, inspect drop tube and inner ram tube. Replace if bent or damaged.
 - ONCE EACH YEAR:**
 - Extend landing legs as far as possible, clean drop tube and inner ram tube. Coat exposed surface of tubes with silicone spray lubricant.
 - Coat inside of handle alignment tube with silicone spray lubricant.
 - Oil shaft bushing in gear box and leg gear heads with SAE 30 oil.
 - Lubricate gears in gear box and landing leg gear heads with extreme pressure grease.
 - 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.
- 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.
 - The 3:1 gear box is not repairable. 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:

- 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.
- Assure the activation switch is turned on. The LED on the switch pad should be lit.



- Hold the hand-held remote vertically with the keypad facing you and have the remote between you and the camper.
- Check that you are within 20 feet of the camper.
- Replace the 9V battery
- Check that the battery terminals are clean and have no corrosion.
- Be sure the dip switch code for the remote and the power relay module are set for the same code.
- 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".



CAUTION

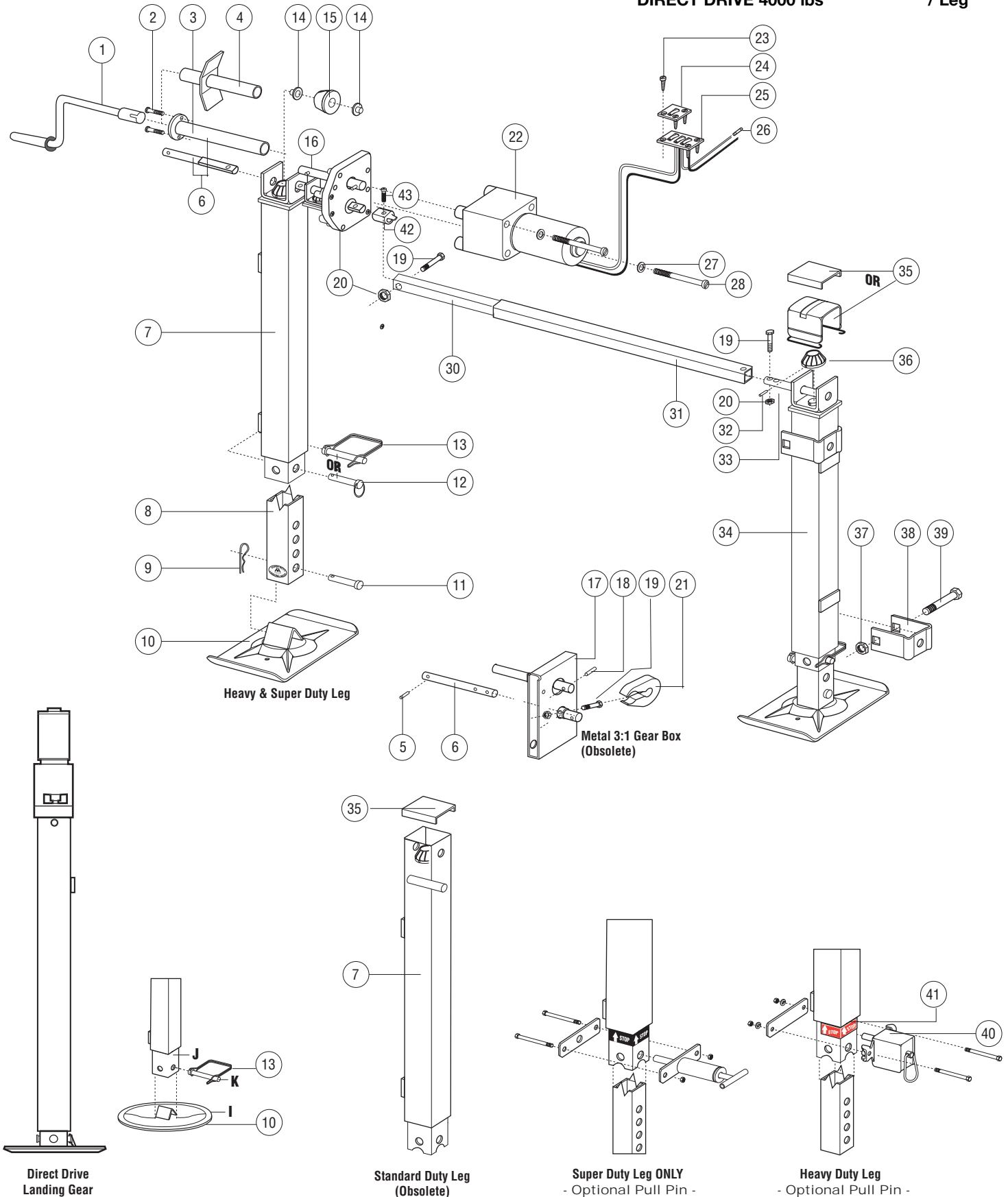
PERSONAL INJURY/PRODUCT DAMAGE

- 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.

5th Wheel Landing Legs

STANDARD DUTY 2000 lbs / Landing Leg
 HEAVY DUTY 3000 lbs / Landing Leg
 SUPER DUTY 4000 lbs / Landing Leg
 DIRECT DRIVE 4000 lbs / Leg



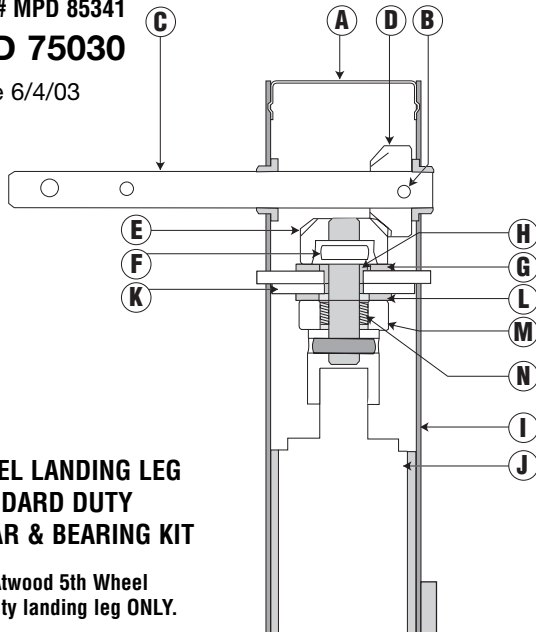
PART IDENTIFICATION					
ITEM	PART NUMBERS				DESCRIPTION
	STANDARD	HEAVY	SUPER	DIRECT	
				87891	Crank Handle / Manivelle
1	70920	70920	70920	N/A	Crank Handle Assembly / Manivelle, 41 cm
	70983	70983	70983	N/A	Crank Handle Assembly / Manivelle, 58 cm
2	70328	70328	70328	70328	Sheet Metal Screw / Vis à tôle
3	75521	75521	75521	75521	Alignment Tube, 21-3/4" / Tube d'alignement, 55cm
	75529	75529	75529	75529	Alignment Tube, 17-1/2" / Tube d'alignement, 44.5cm
4	70542	70542	70542	70542	Alignment Tube, 9-1/2" / Tube d'alignement, 24 cm
	70557	70557	70557	70557	Alignment Tube, 7-1/2" / Tube d'alignement, 19 cm
5	71132	70229	70229	N/A	Gear Drive Pin / Broche d'entraînement de réducteur
6	75062	75061	75061	87941	Driver D-Shaft - new / Arbre primaire - NOUVEAU
6	70105	70757	70757	N/A	Driver Shaft - old / Arbre primaire - ANCIEN
7	*71486	*71488	71470	71528	Driver Leg, 15-1/2" between mtg. stops - new Béquille primaire, 39,4 cm entre butées de montage - NOUVEAU
7	*71424	*71417	71435	N/A	Driver Leg, 15-1/2" between mtg. stops - old Béquille primaire, 39,4 cm entre butées de montage - ANCIEN
8	70004	70004	70216	N/A	Drop Tube / Tube télescopique
9	70269	70269	70269	N/A	Bridge Pin / Goupille
10	70008	70008	70008	70271	Foot Pad / Patin
11	70325	70325	70325	N/A	Clevis Pin / Broche à épaulement
12	N/S	N/S	70215	N/A	Ball Detent Pin / Broche à bille
13	87186	87186	N/S	87186	Lock Pin / Broche de verrouillage
14	21693	21693	21693	N/A	Bushing / Coussinet
15/36	75030	75029	N/A	75029	Bevel Gear Kit/ Pignon de renvoi
16	70754	70754	70754	N/A	Crank Shaft / Arbre d'entraînement (OBSOLETE)
17	71320	71320	71320	N/A	Metal 3:1 Gear Box / Réducteur 3/1 métal
	75054	75054	75054	N/A	Plastic 3:1 Gear Box / Réducteur 3/1 plastique
18	70358	70358	70358	N/A	Motor Drive Pin / Broche d'entraînement moteur
19	70815	70815	70815	N/A	Screw, 1/4"x1.28" / Vis, 1/4" x 4,2 cm
20	70816	70816	70816	N/A	Lock Nut, 1/4" / Écrou-frein, 1/4"
21	71436	71436	71436	N/A	Gear Box Hub Cover for metal 3:1 gear box only Couvercle de moyeu de réducteur – réducteur métal 3/1 seulement
22	75367	75367	75367	70334	Motor Assembly / Moteur complet
23	70243	70243	70243	70243	Sheet Metal Screw / Vis à tôle
24	70254	70254	70254	70254	Switch DPDT / Commutateur bipolaire bidirectionnel
	70259	70259	70259	70259	Small Switch DPDT/Petit commutateur bipolaire bidirectionnel
	70266	70266	70266	70266	Ignition Protected Switch DPDT /Commutateur bipolaire bidirectionnel antidéflagrant
25	87701	87701	87701	87701	Three Switch Panel / Panneau à trois commutateurs
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 mm
32	70667	70666	70666	N/A	Machine Pin / Broche mécanique
33	71139	70817	N/A	N/A	Driven Shaft / Arbre secondaire
34	71425	*71415	N/A	N/A	Driven Leg, 15-1/2" between mtg. stops Béquille secondaire, 39,4 cm entre butées de montage
35	71145	71416	71416	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

- The manual Standard and Heavy Duty landing legs include the cross shaft. Order the optional motor kit, #75391, to convert them to electric jacks.
- For independently operated legs, the Heavy Duty can be ordered in a two-motor version.
- N/A Not available
- * These part numbers vary on non-standard sets. When ordering replacement parts, know the overall length and dimension between mounting stops if any.
- Les béquilles manuelles « Service Normal » et « Service lourd » comprennent un arbre intermédiaire. Commander le kit de moteur en option n° 75391 pour les convertir en béquilles électriques.
- Il est possible de commander les béquilles pour « Service lourd » en version à deux moteurs pour commander chaque béquille indépendamment.
- N/A Non disponible
- * Ces numéros de pièce sont différents sur les ensembles non standard. Pour commander des pièces de rechange, veiller à connaître la longueur totale et la distance entre les butées de fixation, le cas échéant.

LITERATURE # MPD 85341

KIT MPD 75030

Effective 6/4/03



5TH WHEEL LANDING LEG STANDARD DUTY BEVEL GEAR & BEARING KIT

Use on Atwood 5th Wheel
Standard Duty landing leg ONLY.

Remove 5th Wheel Landing Leg per instruction manual MPD 71125 and camper manufacturer instructions.

1. Remove Jack Cover (A).
2. Punch out Drive Pin (B).
3. Remove Drive Shaft (C), Bevel Gears (D) & (E), Machine Pin (F), Spacer Washer (G) and Nylon Brushing (H).
4. Lift Outer Housing (I) from Inner Ram (J).

5. From the top of the Inner Ram, remove Spreader Washer (K), Spacer Washer (L), Thrust Bearing (M) and Felt Sleeve (N).

6. Reassemble jack with the new components (B,D-H, K-N) following steps opposite to the disassembly steps.

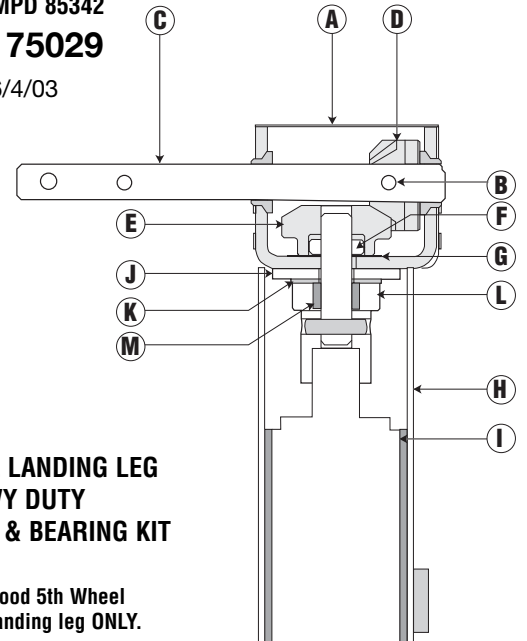
Install 5th Wheel Landing Leg per Instruction Manual MPD 71125 and camper manufacturer instructions.

For complete 5th Wheel Landing Leg instructions, consult MPD 71125.

LITERATURE # MPD 85342

KIT MPD 75029

Effective 6/4/03



5TH WHEEL LANDING LEG HEAVY DUTY BEVEL GEAR & BEARING KIT

Use on Atwood 5th Wheel
Heavy Duty landing leg ONLY.

Remove 5th Wheel Landing Leg per Instruction Manual MPD 71125 and camper manufacturer instructions.

1. Remove Jack Cover (A).
2. Punch out Drive Pin (B).
3. Remove Drive Shaft (C), Bevel Gears (D) & (E), Machine Pin (F) and Thrust Washer (G).
4. Lift Outer Housing (H) from Inner Ram (I).

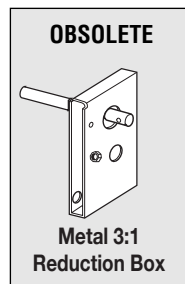
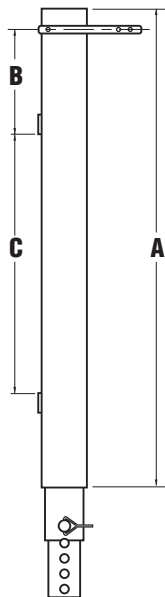
5. From the top of the Inner Ram, remove Cap (J), Support Washer (K), Thrust Bearing (L) and Felt Sleeve (M).

6. Reassemble jack with the new components (items B,D-G, J-M) following steps opposite to the disassembly steps.

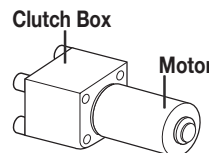
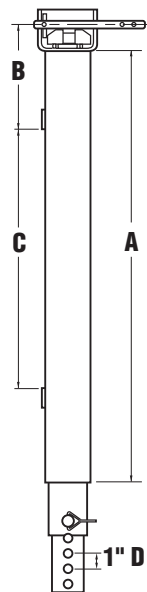
Install 5th Wheel Landing Leg per Instruction Manual MPD 71125 and camper manufacturer instructions.

For complete 5th Wheel Landing Leg instructions, consult MPD 71125.

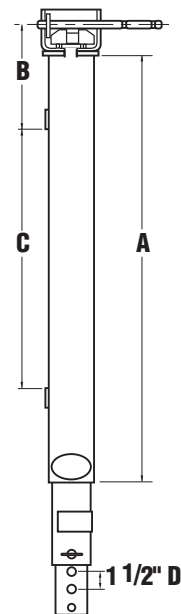
STANDARD DUTY (15/15) (OBS)



HEAVY DUTY (12/16)



SUPER DUTY (12/16)



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).
7. 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).



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

MPD 70300

3:1 GEAR BOX REPLACEMENT

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

ENGLISH

• **Service Kit**

Effective 4/11/00

SAFETY ALERT SYMBOLS

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



WARNING

avoid possible
injury or death



CAUTION

avoid possible
injury and/or property damage

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 ⚡⚡	3,000 lbs. per leg, 6,000 lbs. system

Super-Duty

Electric ⚡⚡	4,000 lbs. per leg, 8,000 lbs. system
▼ without gear box	⚡ single motor
▼▼ with gear box	⚡⚡ dual motor

DO NOT EXCEED THIS CAPACITY



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).

HEAVY DUTY = A leg with a rounded top (FIG 1-A), with 1" between the centers of the holes in the drop tube (FIG 1-B).

SUPER DUTY = A leg with a rounded top, with 1-1/2" between the centers of the holes in the drop tube.

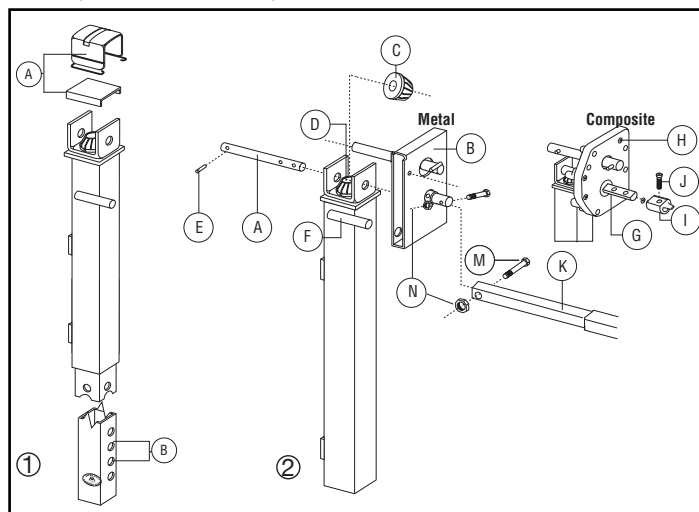
THE DRIVE SHAFTS ARE DIFFERENT. Check your kit. If you have a Standard Duty leg set, the new drive shaft should be silver. For Heavy or Super Duty, the drive shaft is gold.

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*

	MOTOR								SWITCH & WIRING HARNESS			
Kit No.	Long Legged	Short Legged	3" diameter	Height				Shipping Weight	70254 Single	70259 Narrow Single	70266 Ignition Protected	87701 Dual Motor
				Overall		Leg						
				in.	mm	in.	mm					
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	—	—	—
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

△ 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

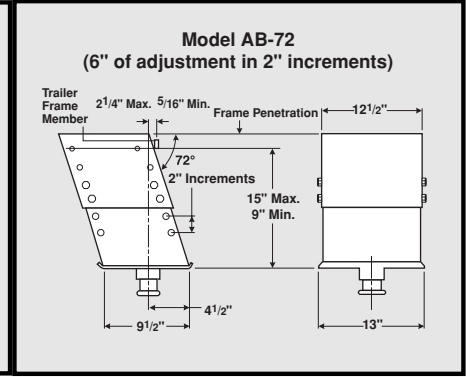
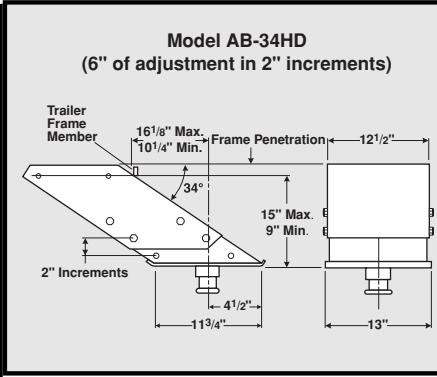
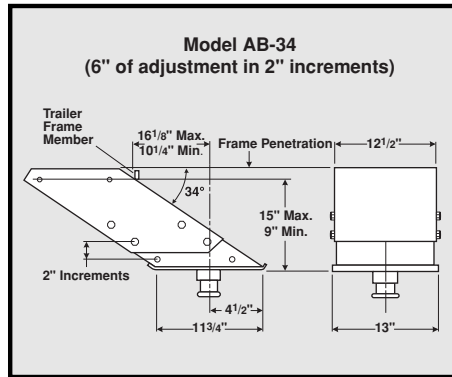
* ULL listed Marine Ignition Protected

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



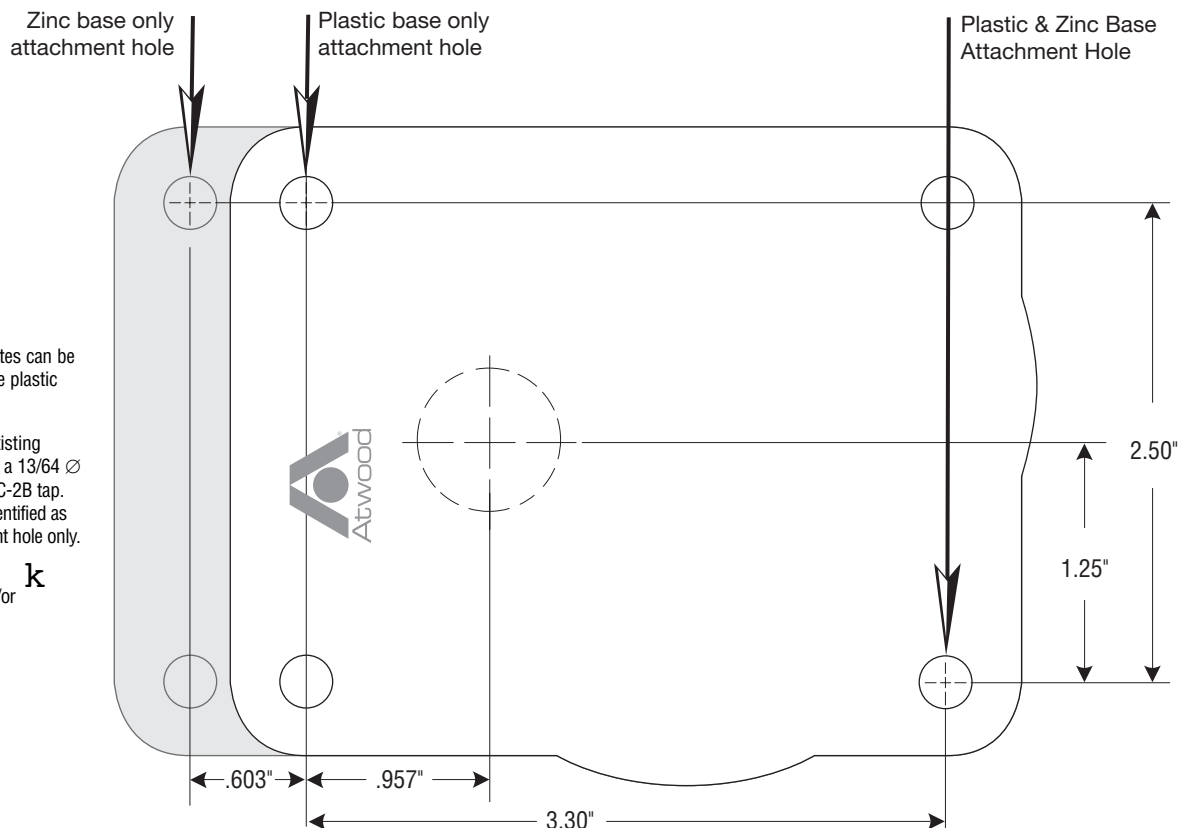
MOTOR TEMPLATE

NOTE: 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.

NOTE:
Motor attachment plates can be modified to accept the plastic base motors.

To do, drill and tap existing attachment plate with a 13/64 ∅ drill and a 1/4-20 UNC-2B tap. At the hole location identified as plastic base attachment hole only.

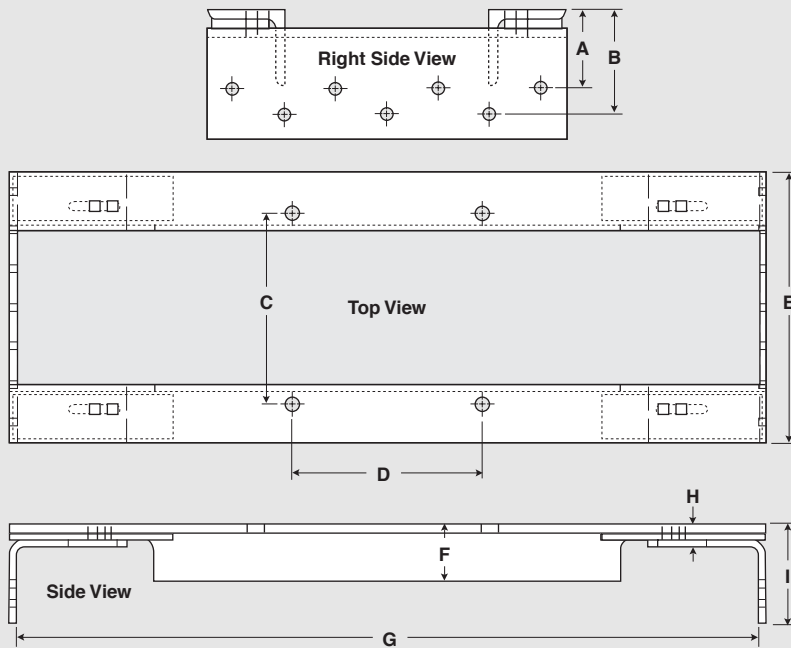
Use full scale layout **k** for measurements and/or template.



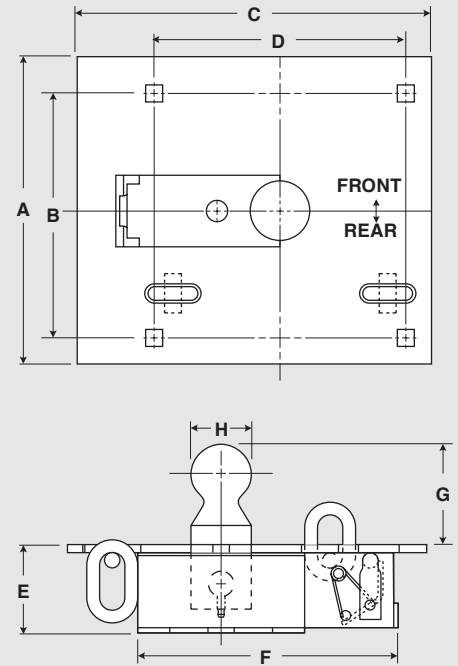
Atwood Folding Hitch Ball & Installation Kit



Installation Kit



Folding Hitch Ball

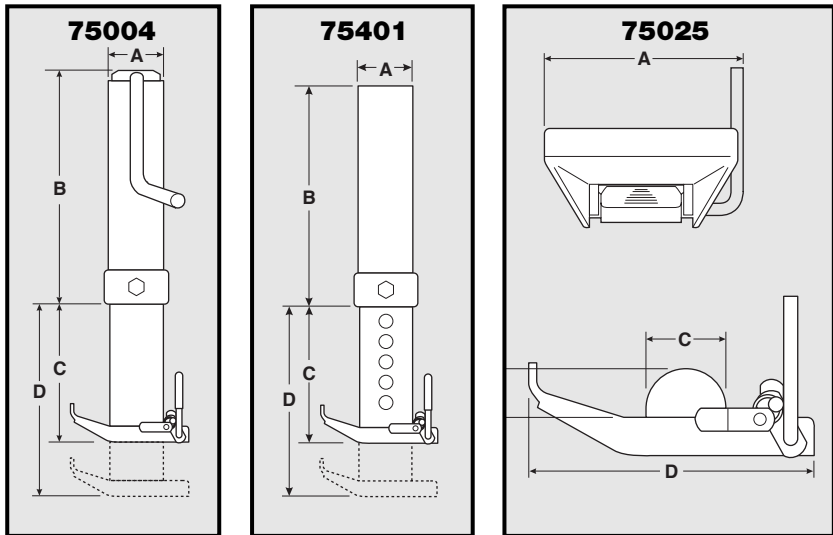


Folding Hitch Ball & Installation Kit Selection Guides

INSTALLATION KIT											
Part No.	Description	25,000 lbs G.V.W.R.	Dimensions								
				A	B	C	D	E	F	G	H
70362	1988-1999 GM 2500 Series Old Style	•	in.	31/8	4 1/8	9 7/8	9 7/8	14	3	40 – 42 1/2	11/8
			mm	79	105	251	251	356	76	1,016 – 1,080	29

FOLDING HITCH BALL										
Part No.	Description	25,000 lbs G.V.W.R.	Dimensions							
				A	B	C	D	E	F	H
75063	without safety chain attachments	•	in.	12	9 7/8	14	9 7/8	3 1/2	10 1/4	2 5/16
			mm	305	251	356	251	89	260	59
75064	with safety chain attachments <i>as shown</i>	•	in.	12	9 7/8	14	9 7/8	3 1/2	10 1/4	2 5/16
			mm	305	251	356	251	89	260	59

Atwood Gooseneck Coupler Systems



Gooseneck Coupler Selection Guide

Part No.	Description	Rated Capacity lbs.	A		B		C		D	
			in.	mm	in.	mm	in.	mm	in.	mm
75025	Gooseneck Coupler	25,000	8 1/4	210	17/8	48	2 7/8	73	9 3/8	238

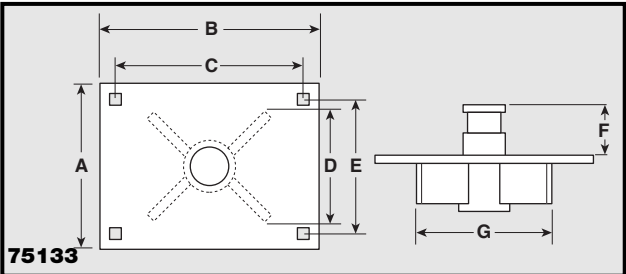
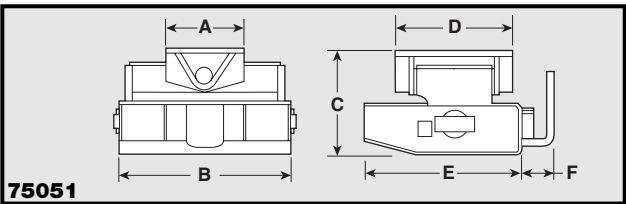
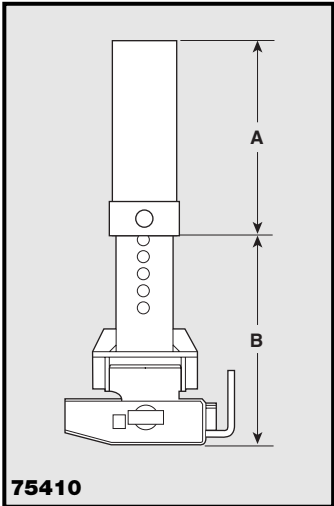
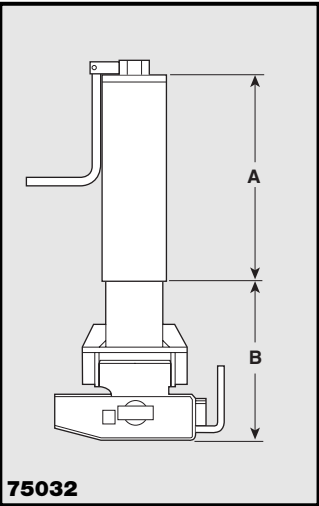
Part No.	Description	Rated Capacity lbs.	A		B		C		D	
			in.	mm	in.	mm	retracted	mm	extended	mm
75004	Gooseneck Coupler w/screw adjustable stem	25,000	5	127.0	24 5/8	625.5	3 5/8	92	13 5/8	346
75401	Gooseneck Coupler w/cross bolt drop stem	25,000	5	127.0	24 1/8	612.8	3 5/8	92	13 5/8	346

Atwood 5th Wheel Hitches

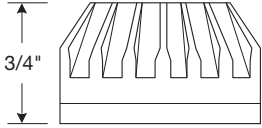
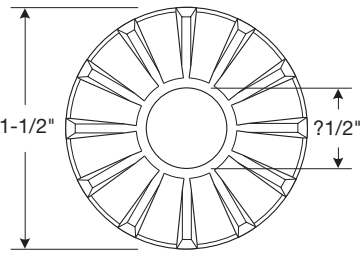
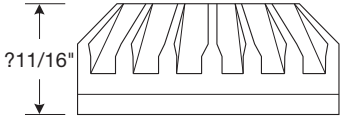
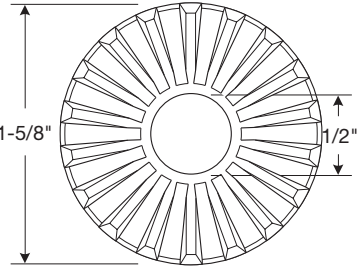
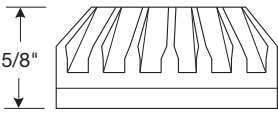
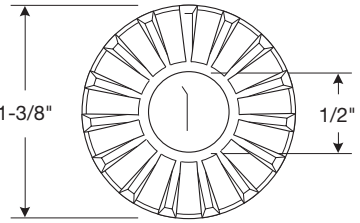
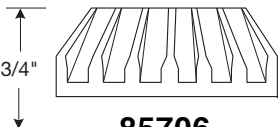
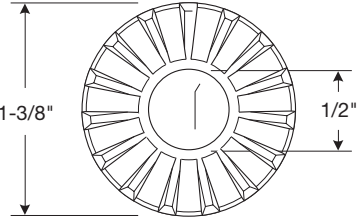
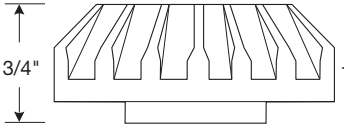
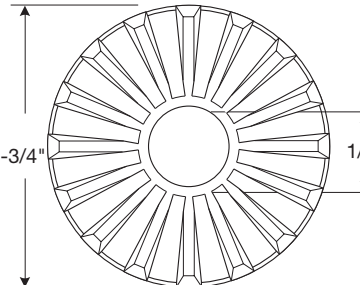
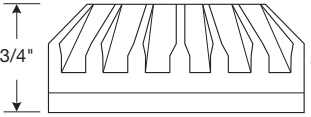
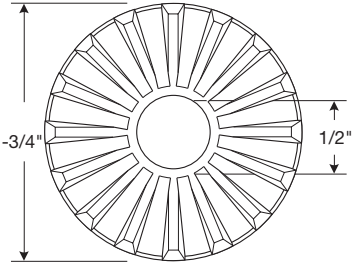
Mini 5th Wheel Hitches and Retractable King Pin Selection Guides

Part No.	Description	Rated Capacity lbs.	A		B		C		D		E		F		G	
			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

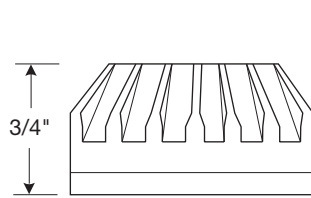
Part No.	Description	Rated Capacity lbs.	A		B			
			in.	mm	retracted		extended	
75032	Dual Axis Mini 5th Wheel Hitch, adjustable stem	32,000	24 3/4	629	12 1/8	308	22 1/8	562
75410	Dual Axis Mini 5th Wheel Hitch with drop stem	32,000	24 1/4	616	12 1/8	308	22 1/8	562



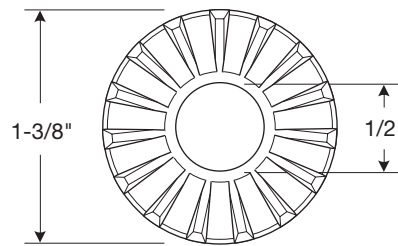
Atwood Bevel Gears

 <p>70227</p>		<ul style="list-style-type: none"> • Qty 1 - 'B' or Heavy Duty 5th Wheel Gear Kit 75029 • Qty 1 - 2000 lb. Sidewind Jack Gear Kit 81480 • Qty 1 -Electric BSCJ Gear Kit 87108 <p>Number of teeth = 12 Slot in bottom = full width</p>
 <p>70306</p>		<ul style="list-style-type: none"> • Qty 2 - A' 5th Wheel Jack Gear Kit 71258 <p>Number of teeth = 18 Slot in bottom = full width</p>
 <p>71138</p>		<ul style="list-style-type: none"> • Qty 1 - 'C' or Standard Duty 5th Wheel Gear Kit 75030 • Qty 1 - Manual BSCJ Gear Kit 85387 • Qty 1 - Acme Screw 4-Post Camper Jack (Order by individual gear 71138) <p>Number of teeth = 15 Slot in bottom = full width</p>
 <p>85706</p>		<ul style="list-style-type: none"> • Qty 2 - 1000 lb SideWind Jack Gear Kit 25524 • Qty 1 - "C" or Standard Duty 5th Wheel Jack Kit 75030 • Qty 1 -Acme Screw 4-Post Camper Jack (Order by individual gear 85706) <p>Number of teeth = 15 Slot in bottom = 7/8" long</p>
 <p>85707</p>		<ul style="list-style-type: none"> • Qty 1 - 'B' or Heavy Duty 5th Wheel Gear Kit 75029 • Qty 1 -Electric BSCJ Gear Kit 87108 <p>Number of teeth = 16 Slot in bottom = 7/8" long</p>
 <p>87650</p>		<ul style="list-style-type: none"> • Qty 1 - 2000 lb. Sidewind Jack Gear Kit 81480 <p>Number of teeth = 16 Slot in bottom = 7/8" long and full width</p>

Atwood Bevel Gears



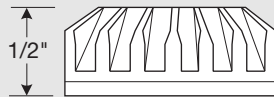
87939



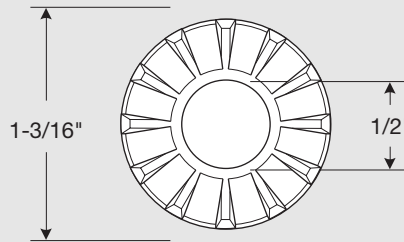
- Qty 1 -Manual BSCJ Kit 85387

Number of teeth = 15

Slot in bottom = 7/8" long and full width



88647



- Qty 1 -Marvel/Dayton Walther 2-1/4" Jack Gear Kit 88230 (OBSOLETE)

Number of teeth = 12

Keyed hole in gear

GEAR PART NUMBERS

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		

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www.myrvworks.com/manuals

Over the years of running a mobile RV repair service, having a dedicated place to access service manuals for all the different appliances and components found on RVs was something that I always had a desire to create.

I hope this resource makes your RV repairs easier, as it has mine, but please be careful and follow proper safety practices when attempting to repair your own RV.

If in doubt, please consult with a professional RV technician!



DARREN KOEPP - OWNER, MY RV WORKS, INC.

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