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## 5<sup>th</sup> WHEEL LANDING LEGS

**SUPER DUTY 4000 lbs / Landing Leg**

**For your safety read all instructions before operating landing legs.**

**INSTALLER:** Provide these instructions to the consumer.

**CONSUMER:** Keep documents for future reference.

**NOTE:** Ultra-Fab 5<sup>th</sup> Wheel Landing Legs are intended for use on recreational vehicle 5<sup>th</sup> wheel-type trailers only.

**CAPACITY:** Super-Duty - 4,000 lbs. per leg, 8,000 lbs. System. **DO NOT EXCEED THIS CAPACITY**

### **WARNING! TRAILER CAN MOVE OR COLLAPSE**

- Never exceed the rated capacity of 5<sup>th</sup> Wheel Landing Leg.
- LANDING LEGS ARE NOT DESIGNED TO BE USED AS TRAILER JACKS.** Do not use the landing 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 trailers 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.

## INSTALLATION

1. Gear box can be oriented to three positions for different crank handle locations.
  2. Place gear box (**FIG 1 #2**) on the driver leg (**FIG 1 #1**) with the drive 'D' shaft box. Slip the collar (**FIG 1 #3**) over the drive 'D' shaft and attach with screw (**FIG 1 #4**).
  3. Assemble foot pad (**FIG 1 #5**) to drop tube with bridge pin clip (**FIG 1 #8**), and clevis pin (**FIG 1 #9**).
  4. Rotate drive shafts on both driver and driven legs to fully retract landing legs.
  5. Attach mounting brackets (**FIG 1 #11**) to legs using carriage bolts and nuts. Torque bolts to 18-20 ft.lbs. On each leg, position one bracket above and one below mounting tabs formed in the landing leg housing.
  6. Position landing legs against frame in a vertical position. Locate foot pads and lock pins for maximum ground clearance and to clear lower edge of trailer.
  7. Mark mounting bracket location on trailer frame. Weld mounting bracket to trailer frame on both vertical sides and across either top or bottom. **DO NOT** weld edges that contact mounting tabs and landing legs.
- NOTE:** Use  $\frac{5}{16}$ " fillet weld No. E6011 AWS wilding rod  $\frac{5}{16}$ " diameter. Machine amps (AC or DCRP) @ 160-180 with 50 volts.
- NOTE:** Due to different frame configurations, it may be necessary to weld angle bracket to lower part of frame to locate landing legs vertically.
8. Assemble the cross shaft, if used, by placing undrilled end of  $\frac{3}{4}$ " square tube (**FIG 2 #5**) into open end of 1" square tube (**FIG 2 #6**).
  9. Attach both landing legs to frame. Fully retract both landing legs before attaching cross shaft. Fasten drilled end of  $\frac{3}{4}$ " square tube to end of shaft through gear box with  $\frac{3}{4}$ " x 1  $\frac{1}{4}$ " long (**FIG 2 #13**) bolt and lock nut. Bolt end of 1" square tube with insert (**FIG 2 #9**) to shaft driven leg with  $\frac{3}{4}$ " x 1  $\frac{1}{2}$ " long bolt (**FIG 2 #10**) and lock nut.
  10. Check operation of landing legs by inserting slotted end of handle through alignment tube and engage the end of landing leg crank shaft. Rotate crank handle counter-clockwise. Check to see if both legs are extending equally.

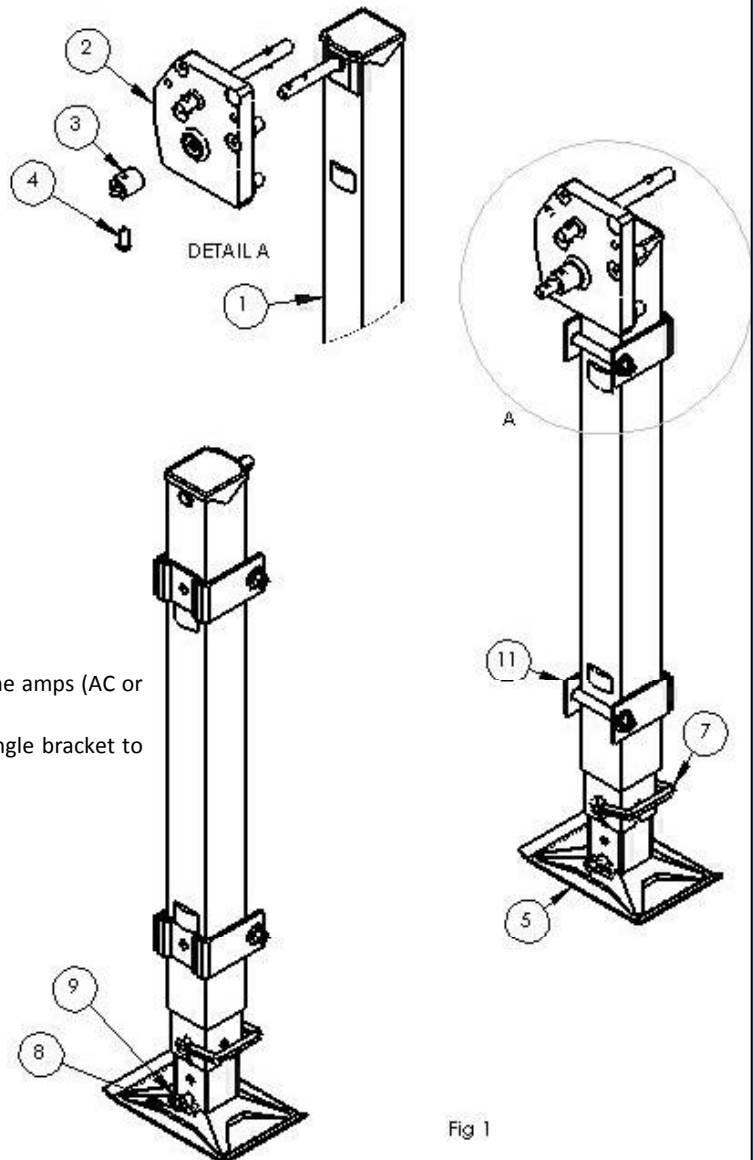


Fig 1

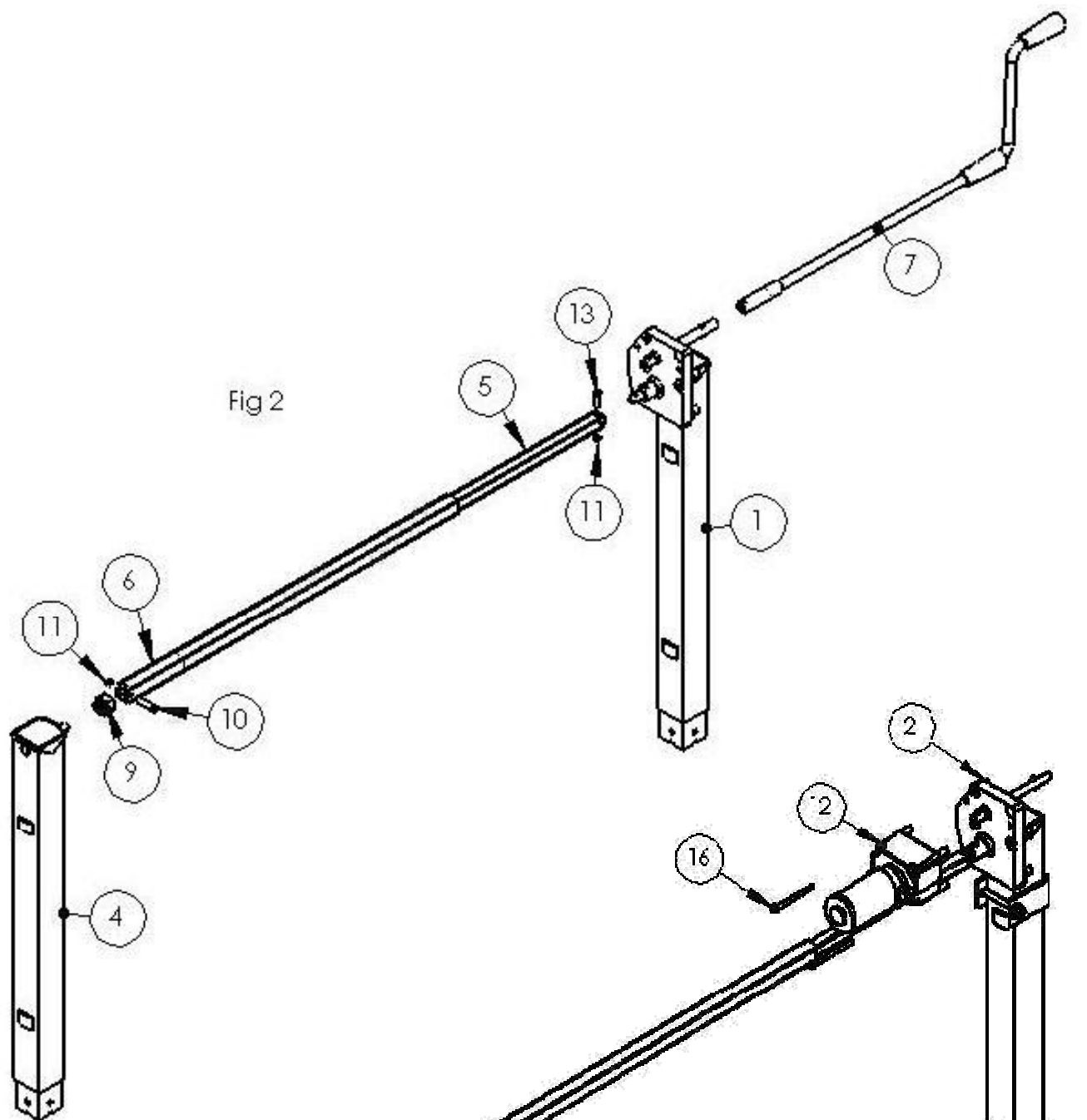


Fig 2

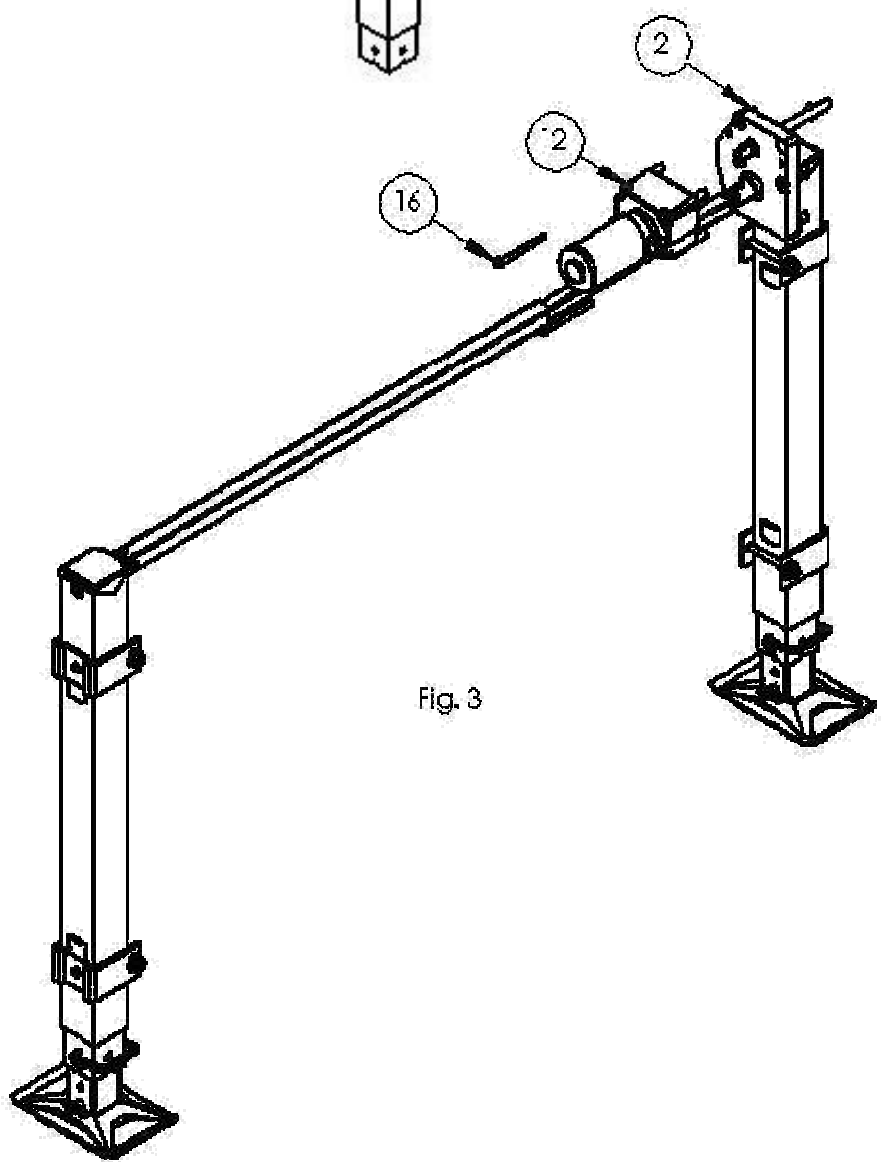


Fig. 3

## Optional Electric Drive Motor

1. The 12VDC electric drive motor must be installed on the inside of the gear box located on the same side of the trailer from which the landing legs are now hand cranked (FIG 3 #12).
2. Put slotted coupling of motor over end of shaft on gear box (FIG 3 #12).
3. Secure motor to gear box with two ¼" dia. X 3½" long rounded (FIG 3 #16) slotted head machine screws. Thread screws into the two tapped holes in gear box.



### WARNING! EXPLOSION

•Switch is not ignition protected. DO NOT install in areas which require ignition protected devices (such as battery or propane tank storage compartments).

4. Choose panel or surface on which electrical switch will be mounted. Protect from environment by mounting inside an access door or protected exterior surface. Cut and deburr hole in panel through which wires will pass. Protect wires from edge of hole by using grommets or strain relief bushing (not furnished).



### WARNING! MOVING PARTS CAN CRUSH OR CUT

•Switches must be located so operator can not operate landing legs and be in contact with moving parts of cross shaft or motor at the same time.

5. For the single switch, cut either a rectangular hole or a 1<sup>5</sup>/<sub>8</sub>" dia. hole. Pass wires through hole from front.
6. Remove fuse from fuse holder until installation is complete and all connections are made.
7. Position panel with the gasket side against the mounting surface. It is recommended to use sealing screws to prevent moisture intrusion.

**Do not cut the wire tie located under the heat shrink tubing. Wires will spread and can pull off the terminals.**

| SINGLE SWITCH WIRING CHART |                                      |
|----------------------------|--------------------------------------|
| LENGTH - WIRE COLOR        | POINT OF TERMINATION                 |
| 48" RED - FUSE & HOLDER    | +12VDC BATTERY TERMINAL              |
| 48" BLACK                  | CHASSIS GROUND OR - BATTERY TERMINAL |
| 84" RED                    | RED MOTOR LEAD                       |
| 84" BLACK                  | YELLOW MOTOR LEAD                    |

**NOTE: If vehicle has auxiliary battery, connect terminals to auxiliary battery so that landing leg may be used when connected to 115V. If additional wire is needed, use no smaller than #10 stranded copper wire.**

8. After reinstalling fuse in system, check installation by moving switch to RET (retract) position to raise landing legs and EXT (extend) position to lower legs.

## OPERATION



### WARNING! MOVING PARTS CAN CRUSH OR CUT

•Keep hands and clothing away from moving parts.



### WARNING! TRAILER CAN MOVE OR COLLAPSE

- Never exceed rated capacity of landing legs – CAPACITY CHART.
- **LANDING LEGS ARE NOT DESIGNED TO BE USED AS TRAILER JACKS.** Do not use the landing 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.
- Chock both sides of trailer wheels before operating landing legs.
- Both legs must touch the ground or the surface at the same time.
- Never drop the trailer off the hitch.
- Do not retract past the **STOP** label.
- Retract landing legs completely before towing trailer.



## **CAUTION! SECURE TRAILER BEFORE TRAVELING**

- Secure latch hitch before raising landing legs.
- Apply trailer brakes and slowly pull the tow vehicle forward.
- The trailer should prevent the tow vehicle from moving.
- Lock pin spring clip must be positioned around landing leg and secured over end of pin on opposite side of leg tube. This prevents pin from coming out during travel.

## **Manual Operation**

**TO EXTEND THE LANDING LEGS.** Insert handle into alignment tube until end engages crank shaft. Turn handle counterclockwise until the ram (the middle tube) is halfway to the ground. This will optimize the overlap of all tubes, thus minimizing trailer sway. Then remove the pin in the drop tube or, if you have a pull pin that doesn't remove, pull the handle pin so the pin is disengaged. Let the drop tube fall to the ground and re-pin in the nearest adjustment hole. Continue extending the landing legs until the pin box disengages from the hitch and the weight of the trailer is completely removed from the hitch. When there is sufficient clearance between the pin box and hitch, move tow vehicle clear of trailer. Then lower the trailer until it is level, side-to-side and back-to-front. Remove and store the crank handle.

**TO RETRACT THE LANDING LEGS.** Insert the handle into the alignment tube until the end engages the cross shaft. Turn the handle clockwise until the trailer is engaged in the hitch of the tow vehicle. Remove pin or disengage the pull pin and raise the drop tube, re-pinning it in the highest position. Fully retract the legs so that the foot pad is higher than the lowest point of the trailer, to prevent dragging while going over a curb. Do not extend the legs past the **STOP** label. Remove and store the handle.

## **Electric Motor Operation**



### **CAUTION! POTENTIAL DAMAGE TO LANDING LEGS**

- Do not retract the legs past the STOP label.
- At leg's maximum extended or retracted length or maximum load, you will hear a clicking noise. This is the slip clutch built into the motor to prevent landing leg from over-extension or over-retraction.
- Release switch as soon as you hear the clicking. Continued operation with clutch slipping can damage legs.

**TO EXTEND THE LANDING LEGS.** Push switch to **EXTEND** position and hold until the ram (the middle tube) is halfway to the ground. **EXT** and **RET** on the switches refer to the travel direction of the legs, not of the trailer. This will optimize the overlap of all tubes, thus minimizing trailer sway. Pull the pin or disengage the pull-pin and let the drop tube fall to the ground and re-pin in the nearest adjustment hole. Continue extending the landing legs until the pin box disengages from the hitch and the weight of the trailer is completely removed from the hitch. When there is sufficient clearance between the pin box and the hitch, move tow vehicle clear of trailer. Move the tow vehicle clear of 5<sup>th</sup> wheel. Then lower the trailer until it is level, side-to-side and back-to-front.

**TO RETRACT THE LANDING LEGS.** Push switch to **RETRACT** position and hold until legs are fully retracted. Release the switch as the clevis pin in the inner ram tube nears the end of the outside tube to avoid unnecessary wear on motor clutch. Do not extend the legs past the **STOP** label. Remove lock pin and raise drop tube, re-pinning it in highest possible position.

**NOTE: Landing Legs may be operated with handle if electric drive motor is inoperative or if electricity is unavailable.**



### **CAUTION! HANDLE COULD CAUSE INJURY**

- Remove handle before using electric drive motor. Failure to do so will allow handle to jerk or spin around.

**NOTE: Before towing, check for maximum clearance between ground and bottom of landing legs.**

## **MAINTENANCE**

1. Before use, inspect drop tube and inner ram tube. Replace if bent or damaged.
2. **ONCE EACH YEAR:**
  - a. Extend landing legs as far as possible, clean drop tube and inner ram tube. Coat exposed surface of tubes with silicone spray lubricant.
  - b. Coat inside of handle alignment tube with silicone spray lubricant.
  - c. Oil shaft bushing in gear box and leg gear heads with SAE 30 oil.
  - d. Lubricate gears in gear box and landing leg gear heads with extreme pressure grease.
3. For Electric Drive Motor Landing Legs, twice each year, check wiring connections at battery. Clean terminals with a solution of baking soda and water. Cover with a thin coat of grease.
4. The Electric Drive Motor Landing Leg system is protected by a 30 amp fuse. If replacement is necessary, replace only with a Buss Type AGC-30 fuse or equivalent, available in automotive supply stores.
5. The 3:1 gear box is not repairable. Do not take it apart. If you have a problem with the gear box, replace it.