FORD BOLT-ON

Version **#1122**

BIGFOOT HYDRAULIC SYSTEMS

INSTALLATION & OPERATING USER MANUAL

BOLT-ON Applications:

Ford Transit 350HD

2013-19 Chassis Cab/Cutaway Class-C **PAGES 15-23**

2020+ AWD, Gas & Diesel Chassis Cab/Cutaway **PAGES 15-23**

Ford E-350 & E-450

1992+ Chassis Cab/Cutaway Class-C **PAGES 11-14**

Automatic Central/Quad, Platinum and 2pt Systems

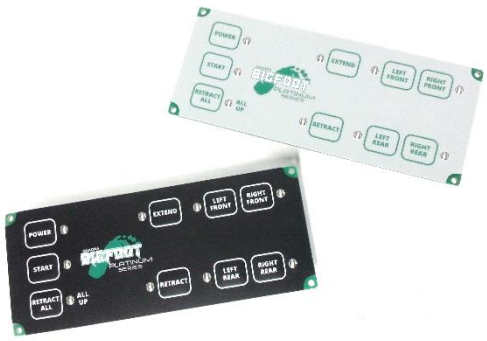
UNITED STATES PATENTS
#10093286 #10759396 #10821944

305 US 131 SOUTH, WHITE PIGEON, MI 49099
800-752-9815 (PHONE), 269-483-9636 (FAX)
BIGFOOTLEVELER.com

1st Identify your leveling system… **Then follow the manual by looking for titles of your specific system. Start with mounting the cylinders, then tank assembly, install hydraulic hose and wiring harnesses, electrical controls, finally hook to battery, test and bleed lines.**

Automatic System

Automatically levels the vehicle
with supreme precision.
Manual operation feature.
All-up & Ignition safety feature.
Emergency Retract operation.
Lifetime warranty on cylinders.
Central & Quad Pump Formats.



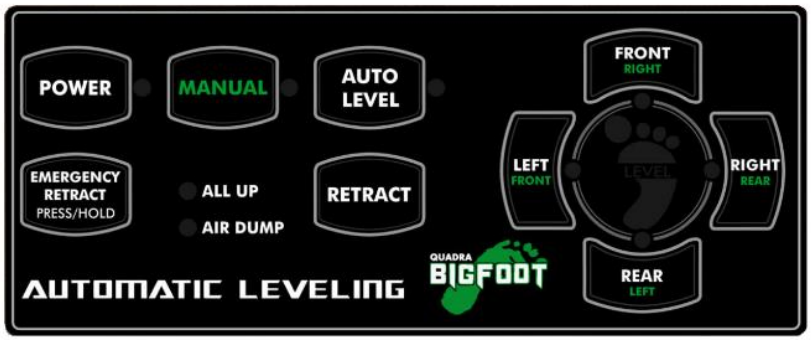
Platinum System

Automatically deploys all four jacks
to level the vehicle from front to rear.
Manual operation feature.
All-up & Ignition safety feature.
Simple, no nonsense design.
Central Pump System.

2pt Stabilizing Systems

Wireless, Rocker & Dual Controls

Automatic Leveling Controls



IF ALL LIGHTS ARE FLASHING, SEE "PROGRAMMING OR ZERO MODE"

Operation:

Vehicle ignition/accessory must be OFF in order to auto level or extend the jacks.
Make sure slide outs are retracted prior to operating leveling system to avoid damaging slide outs.
System is not tied to vehicle parking brake.
Panel will shut off automatically after 5 minutes of no use.
Panel will turn on automatically after ignition is turned on, safety feature to monitor that cylinders are retracted.

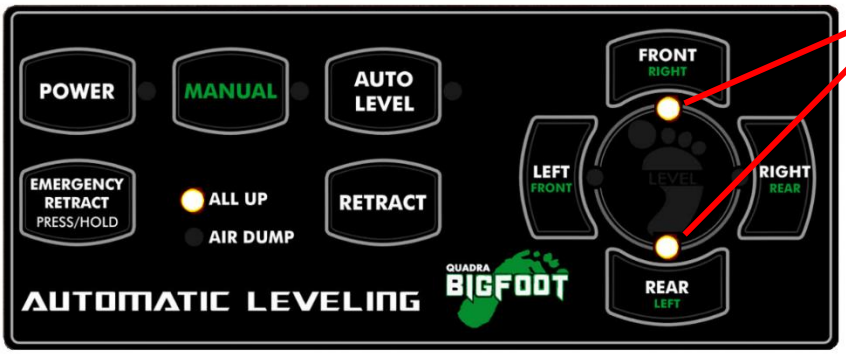
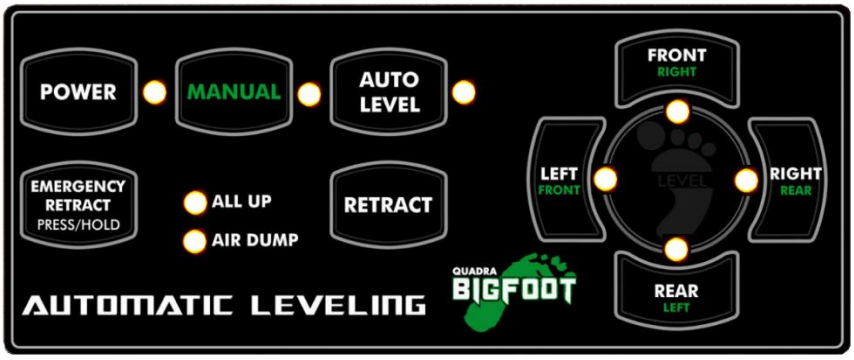
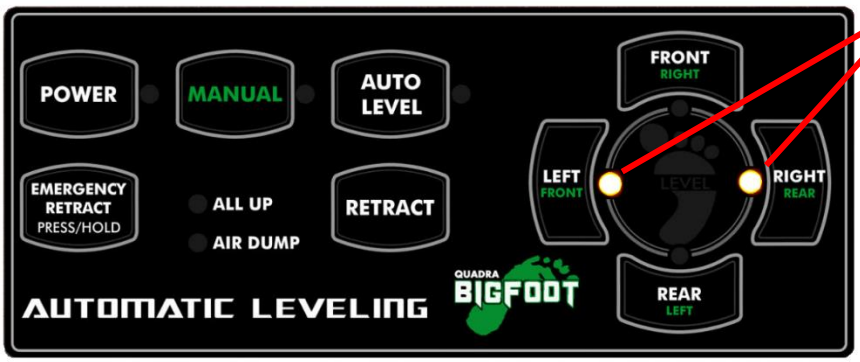
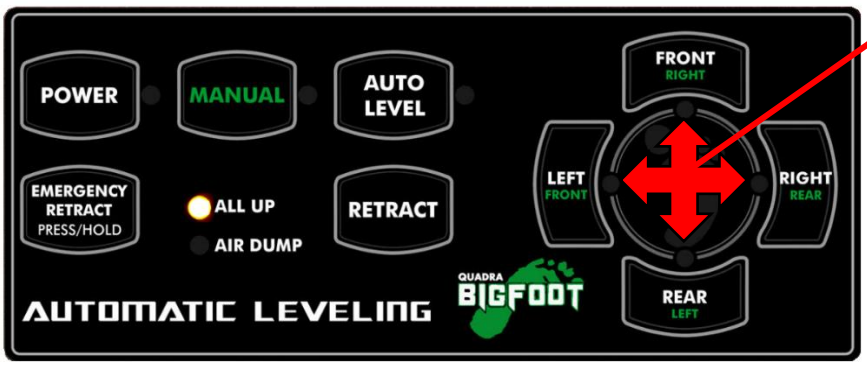
1. Turn panel/system on and let system run through its diagnostic mode. Lights will flash clockwise around the green foot on right side of panel.

2. To Auto level: When the lights stop flashing, simply press the AUTO button once and release. There can be no movement in the coach during this 60-90 second process, best if operated from outside vehicle or sitting still inside.

3. If choosing Manual Mode, press and hold the MANUAL button until light comes on. Now each button on the right will extend the corresponding cylinder. When in the MANUAL mode, each leveler may be operated individually. FRONT operates right front. RIGHT operates right rear. REAR operates left rear. LEFT operates left front. When using this feature it is important to level the coach by using two levelers at a time or small individual increments to avoid twisting the RV body. For example, right front and right rear, this puts less stress on the frame. To individually retract, press the RETRACT button and the cylinder button simultaneously. Turn panel off when finished.

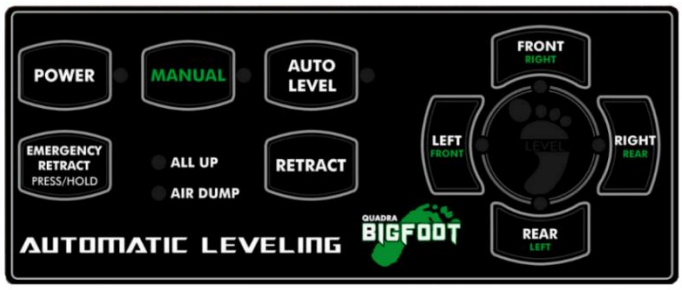
4. To retract the levelers: Simply turn the panel on and press and release the RETRACT button. The pump will shut off when all four cylinders are fully retracted and the ALL UP light comes on. Always do a visual check to verify all four cylinders are completely retracted. If one or more cylinders are not fully retracted and the ALL UP light is on, press and hold the EMERGENCY RETRACT button until they are all retracted and see troubleshooting section to identify what may be going on.

5. The EMERGENCY RETRACT button, this is used to override the electronic safety features built in the control to retract all four cylinders simultaneously. You will need to press and hold this button until all four are retracted completely, once released the panel will shut off. As long as there is enough voltage in the house batteries to turn the motor, this button will retract the cylinders.

	**FRONT RIGHT & REAR LEFT LIGHTS FLASHING, THIS MEANS LOW VOLTAGE TO CONTROLS, PANEL INOPERABLE EXCEPT EMERGENCY RETRACT, SEE "LOW VOLTAGE CODE" ON NEXT FEW PAGES.**
	**ALL LIGHTS ARE FLASHING, THIS MEANS PANEL IN ZERO OR PROGRAMMING MODE, SEE NEXT PAGES. SOME FUNCTIONS INOPERABLE UNTIL OUT OF THIS MODE. CAN PRESS EMERGENCY RETRACT TO QUICKLY EXIT.**
	**LEFT FRONT & RIGHT REAR LIGHTS ARE FLASHING, THIS MEANS SYSTEM TIMED OUT, STROKED OUT, OR HAD MOVEMENT DURING AUTO LEVEL. PRESS RETRACT. SEE "TIMED OUT CODE" ON NEXT PAGES.**
	**IF ONE OR MORE OF THESE LIGHTS ARE FLASHING IN ANY ORDER OTHER THAN LISTED ABOVE, NOTHING IS WRONG. THEY ARE INDICATING THE LOW POINTS OR "LEVEL STATUS" OF THE VEHICLE.**
IF "AIR DUMP" LIGHT FLASHING…	STORING PROGRAM, WAIT FOR BIGFOOT LIGHT TO COME ON.
IF "AUTO LEVEL" LIGHT IS ON…	SYSTEM RUNNING AUTOLEVEL PROGRAM, WAIT TO FINISH OR RETRACT.
PANEL TURNS ON, WHEN IGNITION TURNED ON…	NORMAL, PANEL WILL SHUT OFF 5 MINUTES AFTER IGNITION IS OFF, EXTEND FUNCTIONS DISABLED.

Programming mode or “all lights flashing on panel”

When all the lights are flashing on the panel, this means the control is in programming or zero mode. This is where the user sets the level program in the controller. When the panel is first installed or hooked to power, it will enter this mode automatically. To quickly get out of this mode (if program has already been set) just press the POWER button or EMERGENCY RETRACT button to shut panel off.

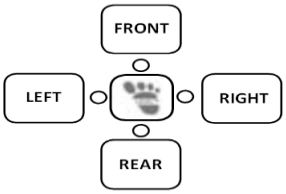


To Program Level Position

If all lights are flashing move to step 3.

1. Make sure all four cylinders are retracted, if they are move to step 2. If not, turn panel ON, let diagnostic lights flash until they stop (within 30 seconds). Press RETRACT button, when all up light comes, move on.
2. Enter zero or programming mode by turning the panel on, diagnostic lights will cycle, then press FRONT RIGHT (top button over Bigfoot logo) button five times, then REAR LEFT button five times (not too fast or too slow, standard second count).
3. All lights will come on, you are in zero mode. Press and hold each cylinder button (Ex. FRONT RIGHT) individually until the cylinder touches the ground, then STOP. Run the next cylinder, press and hold, stop once it touches the ground.

   Keep in mind to avoid twisting RV body with individual adjustments.



FRONT indicator operates the right front.
RIGHT operates the right rear.
REAR operates the left rear.
LEFT operates the left front.

4. Once all four are on the ground, you must choose a level reference point. This is where the controls will level to on your vehicle. Examples include corner of counter top near controller, floor just in front of step, etc. But you must only choose one spot. Place a bubble level on the reference point of the vehicle you want to level, Example: floor in front of the entry step. Place level so it is reading front to rear.
5. Find the low end and extend the corresponding cylinders individually until the bubble reads level front to rear, you can do small increments individually or in pairs, make sure you let coach settle before continuing to lift (coach will shake). Once bubble level is level front to rear do the same for left to right. Keep in mind, when programming you want to use as little of cylinder travel as possible.
6. Once level in both directions, verify that all four cylinders are touching the ground, if not bump a cylinder, re-check level. If satisfied, next step.
7. Press the RETRACT button three times, this stores the program. Wait until the Bigfoot icon LED comes on (AIR DUMP light will flash, just wait). Once the foot light comes on, press RETRACT to retract cylinders. If you do not want to store program, just turn panel off or press EMERGENCY RETRACT.
8. Panel is now programmed, now every time you press AUTO it will come to this position. Can always be re-programmed. If loss of power occurs or sensor is unplugged, sensor will still have program stored.

ALL UP Light

Light comes on when all four limit switches have been made. This is a normally closed circuit, limit switch mates and circuit opens, ALL UP light comes on. Wired in series so light will go off if only one switch is not made.

Bigfoot Light

Shaped like a footprint, it comes on solid when auto level process is complete or successful. Light will flash when coach is “near” level position, however auto level program may not be finished yet.

Audible Alarm

Alarm will sound (sounds like seat belt alarm) when the ignition or accessory is on and there is no ALL UP light. This means that one or more of the cylinders are not fully retracted. If this happens, press and hold EMERGENCY RETRACT until the alarm goes off or shut ignition off and retract the system. If the alarm does not shut off, this could mean that one of the footpads came up at an angle (pivoting dome design can interfere with solid connection if not straight) or that one of the pins are bent and are not making contact with the switch. Extend each cylinder individually, and inspect, then press RETRACT (not in manual mode) so that all cylinders retract. Check for ALL UP light. If not, repair switches by removing with 7/8” wrench and cleaning with WD40 (spherical ball switch), then try again.

To temporarily get rid of alarm: After retracting each cylinder with emergency retract button, temporarily disconnect (unplug) two spade connectors on switch at particular cylinder (located near footpad) OR unplug control panel or leveling sensor to eliminate alarm from beeping as long as you have confirmed cylinders are retracted. Then repair switches and return to proper installation. This is for disabling alarm only while camping, Quadra does not recommend putting the vehicle in gear with this setup.

Pump does not shut off when cylinders are fully retracted…

If you have an ALL UP light and pump will not shut off once light is on, then there may be damage to the harness during installation (screw or p-clip smashing wires causing short). Send replacement harness or inspect harness along subframe beams underneath coach (we have found this issue before with the p-clips smashing harness or screwed into looming/harness). User can shut pump off by pressing EMERGENCY RETRACT.

If you do not have an ALL UP light, then a limit pin is bent or damaged not making contact with a limit switch, check pins near footpads on each cylinder. If one is bent, they can be straightened, remove with 7/8” wrench. OR for temporary solution the limit switch itself can be unplugged (two spade connectors) and use EMERGENCY RETRACT to completely retract all four cylinders.

One or two cylinder lights on right side of panel on or flashing…

FRONT RIGHT, RIGHT REAR, REAR LEFT, LEFT FRONT: any one or two of these buttons operate corresponding cylinders, the lights however will indicate the low points of the coach at all times, so when one or two of them are on or flashing, the control is just indicating to the user where the low point is. However, if FRONT & REAR or RIGHT & LEFT flash this means there is an error code (see troubleshooting) as opposite ends of the coach cannot both be the lowest points.

Panel Troubleshooting

The FRONT, RIGHT, REAR or LEFT cylinder lights are flashing. This is indicating the low points of the coach as it sits, nothing is wrong with the control; it is constantly monitoring the level status of the vehicle.

Our panel will shut off by automatically after five minutes of no use. Panel will also turn on automatically when the ignition turns on, this is a safety feature monitoring the cylinder position (making sure they are retracted) and is only drawing power for the two LED's. The panel will shut off again after five minutes by itself after no use or ignition shuts off. With the ignition on, the panel power lights can be shut off, but the ALL UP light will stay on for safety.

LOW VOLTAGE CODE: FRONT and REAR lights flashing, control is seeing low voltage (less than 9.5-10v). Shut the panel off. Charge the house batteries, when they supply enough voltage, try system again (at least 15 minutes). If low voltage code comes on again, or never goes away, you may have to unplug the interface harness (between the panel and sensor) at the back of the control panel or the front of the sensor to clear the error code. Repeat battery charging. See location chart on last few pages next to picture of leveling sensor.

TIME OUT CODE: When AUTO leveling, if the **LEFT and RIGHT lights are flashing**, the system timed out, or there was movement in the coach during auto leveling or the cylinders ran out of stroke in order to reach level (re-park or add blocks to low corner cylinders).

If there is **no ALL UP light**, and the vehicle ignition turns on, the panel's alarm will sound. The alarm cannot be shut off until: The ignition is shut off **or** the ALL UP light comes on. The ALL UP light is tied to each cylinder's limit switches in the wire harness (grounded in-series circuit, normally closed limit switches, once limit switch mates circuit is broken and ALL UP light comes on). If one switch is not made the ALL UP light will not come on. Press the RETRACT button to retract the cylinders, pump will run until the ALL UP light comes on or 2 minutes.

If you get a **false ALL UP light (light on but one or more cylinders not fully retracted)**, check the wire connectors at all the limit switches, they are male and female spade connectors, they may have a poor connection or not plugged in all the way. If the connections are good then there may be moisture/rust in the limit switch or it is defective. Press and hold the EMERGENCY RETRACT button to retract the cylinders and override the limit switches, once button is released panel will shut off. Sometimes the limit switches can be taken off and cleaned, sprayed with WD40. Part #M50103FLAT to order replacement limit switch and pin, need 7/8" wrench only, wires are spade connectors (plug/unplug).

If you do not get an ALL UP light but cylinders are retracted, press and hold EMERGENCY RETRACT to see if that works. Otherwise, there could be a limit pin bent or missing/loose footpad not allowing pin to make contact with limit switch. Straighten pin or re-attach a footpad (if missing, disconnect limit switch wires to open the circuit). See Fig.4 for schematic or part #'s. If customer has access to hardware store, a ¼" vacuum cap can be placed under pin to help reach bent footpad. Customer can also disconnect wires on limit switch to open circuit (this will give you a false ALL UP light).

Limit Switches

We use a mechanical ball switch for our cylinder retract indication. This simple normally closed switch is on a grounded circuit, when the limit switch is made it breaks the circuit (for the light to come on). These switches can get road debris, rust, etc. inside the ball switch itself and make the switch stick. Also the pins can bend from contact with the footpad hitting a curb or parking lot during your drive. These parts are simple in design and replacement and fairly in-expensive compared to competition's internal pressure switch located inside the pump assembly on the manifold buried underneath the vehicle.

Panel won't turn on, system won't run, clicking noise, FRONT & REAR lights flash…

Battery low, panel won't turn on = coach battery, the system relies on the house battery. The battery needs to be nearly 100% charged for the system to work, it doesn't make a difference if the coach is new, that doesn't mean the battery is fully charged or even good. Battery's don't charge instantaneously, so one can't just expect to hook it up to a charger and the system will work immediately, if the battery is good, then the unit might have a ground issue. Auto systems may require user to un-plug/re-plug the interface cable to clear code on panel regardless, newer versions do this automatically and do not need to be unplugged.

Most tech support common calls

Most issues we receive are power related. Always check power and ground wire connections first. Check power level of battery under load (place volt meter on battery then press and hold EMERGENCY RETRACT on control to see if voltage drops).

Cylinders not lifting or holding pressure

This means there is more than likely air in the system (not bleed during installation). Two methods, easy method is to enter manual mode and completely extend all four cylinders to full extension and leave for an hour, then retract, wait another 30 minutes before operating again. If this does not fix the issue then the **secondary bleeding procedure** must be done, see below for instruction.

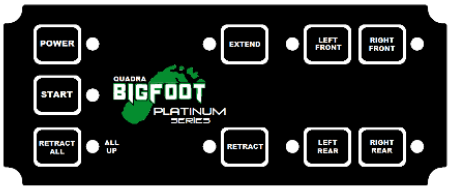
Cylinder will not operate, extend or retract…

Attempt to bleed system first, verify that it will not operate in either direction. Then check all wires at the leveling sensor to make sure they are inserted properly in the plug at the back of the sensor (wires may be loose in connector). If this is all good, then the corresponding valve/coil may be defective, in tank assembly check valve ground wire (to solenoid mounting bolt) and wire connection to wiring pigtail. If valve bad, part #M35008, take care replacing do to ease of crushing valve assembly on re-installation.

Secondary air bleeding process

If there is still air in the system, a more strategic method may be required. Loosen all four extend hose fittings (15mm wrench) on the jacks (located near the top of each cylinder), enough that fluid and air can escape. Enter manual mode on panel (press and hold MANUAL for 3 seconds until light comes on). Press and hold each cylinder until solid fluid comes out of each fitting. Tighten fittings and repeat for retract hose fittings to ensure all air is out, to retract cylinders in manual mode, press each cylinder and the RETRACT button simultaneously. Re-tighten all fittings and clean up mess. This method can also be done by placing each line in a bucket to minimize mess afterwards. *In some instances, the front jacks may need to be dis-mounted from underneath the cab to access the top extend ports during the bleeding procedure.*

Installing Platinum Control Panel (“PC” part #’s)



Installing the <u>Platinum Control Panel</u>

Plug the 14-pin & 6-pin from the harness into the back side. There is a yellow wire coming from the 6-pin that needs to tie into an ignition hot wire from the vehicle (page 18).

The panel may be mounted on any flat surface, typically on vertical cabinet wall near entry door of coach (near other controls, switches, etc.) If you cannot find a location, we do offer a handheld plastic box that can be ordered separately (#M13601 from Quadra Mfg.) the panel would fit inside Quadra’s plastic box assembly with the harness loosely coiled underneath the driver’s seat for convenience.

Fasten panel with four supplied small black #4 phillips screws (5/8” long).

Optional safety feature for Platinum panels, The manual EXTEND mode is active while the ignition is on (version A Platinum panels only). So one could turn the panel on, press EXTEND, and would have to press & hold one of the cylinder buttons to extend the corresponding cylinder, this could be possible while driving down the road. Safety option: Install an in-line on/off toggle switch to shut power off to the panel to prevent operation while driving down the road from children, etc. Find the red wire from the 6-pin harness that goes to the back of the panel. Cut and splice the included wires to route to the toggle switch that should be located near the Platinum panel for convenience.

Operation on next page, but here are some Platinum Panel operational notes…

The START function (jacks automatically deploy) is disabled when the ignition is on.

The panel will shut off automatically after 10 minutes when there are no buttons pressed.

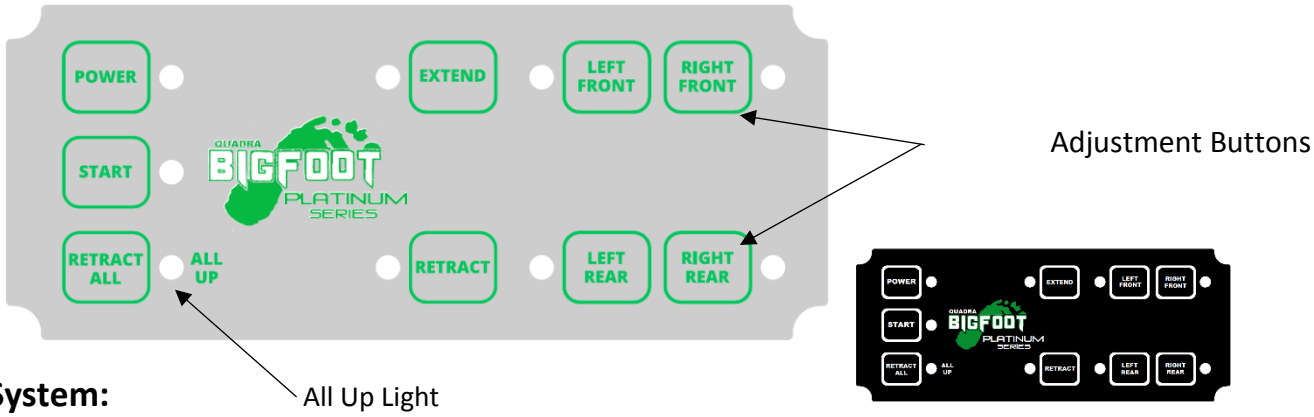
The panel will turn on automatically when the ignition is on, and will not power off until the ignition is off.

The panel will shut off automatically after 10 minutes from the ignition is shut off.

If all the LED’s flash for one second and the panel turns off, the panel is receiving less than 9.5 Volts and you need to charge your house batteries.

Platinum Leveling Operation ("PC" part #'s)

Panel also available in black, NOTE: 1. Panel turns on when ignition turns on to inform user if jacks are up or down (alarm sounds). 2. Due to another safety feature, to operate the "START" and "RETRACT ALL" buttons, press and hold the button for 1-2 seconds then release.



Extend System:

1. Press the **Power** Button (Red LED will come on constant).
2. Press the **Start** Button, this brings the front of the vehicle nearly level to the rear and stabilizes the rear as well. (LED will come on until program is finished, pressing any button during operation will cancel program, Vehicle Ignition must be OFF).
3. Done! Vehicle is now stabilized, ***if*** additional adjustments are desired:
    1. Press **Extend** (now in "Extend Mode" LED will come on). Release button.
    2. Press & Hold the Adjustment Button for the designated corner(s) of the vehicle that is low or high. *(Ex. Right or Curb side is low, press & hold RIGHT FRONT individually or RIGHT FRONT & RIGHT REAR simultaneously until level, driver's side is considered the left side for reference.).*
4. **Power** Off (panel will automatically shut off after 10 minutes of no activity).

Retract System:

1. Press the **Power** Button (Red LED will come on).
2. Press the **Retract All** Button until the green **"All Up"** light comes on constant.
   (This process will take up to 60 seconds. After 60 seconds the green light will flash, this means that one or more of the jacks did not fully retract, see troubleshooting) If you have a false all up light (one or more jacks are not fully retracted and the light is on, you may have defective limit switch) to retract override, press RETRACT, then press & hold the corresponding button for that particular jack (version B or later only).

Always do a visual check to verify that all the jacks are fully retracted prior to operating the vehicle.

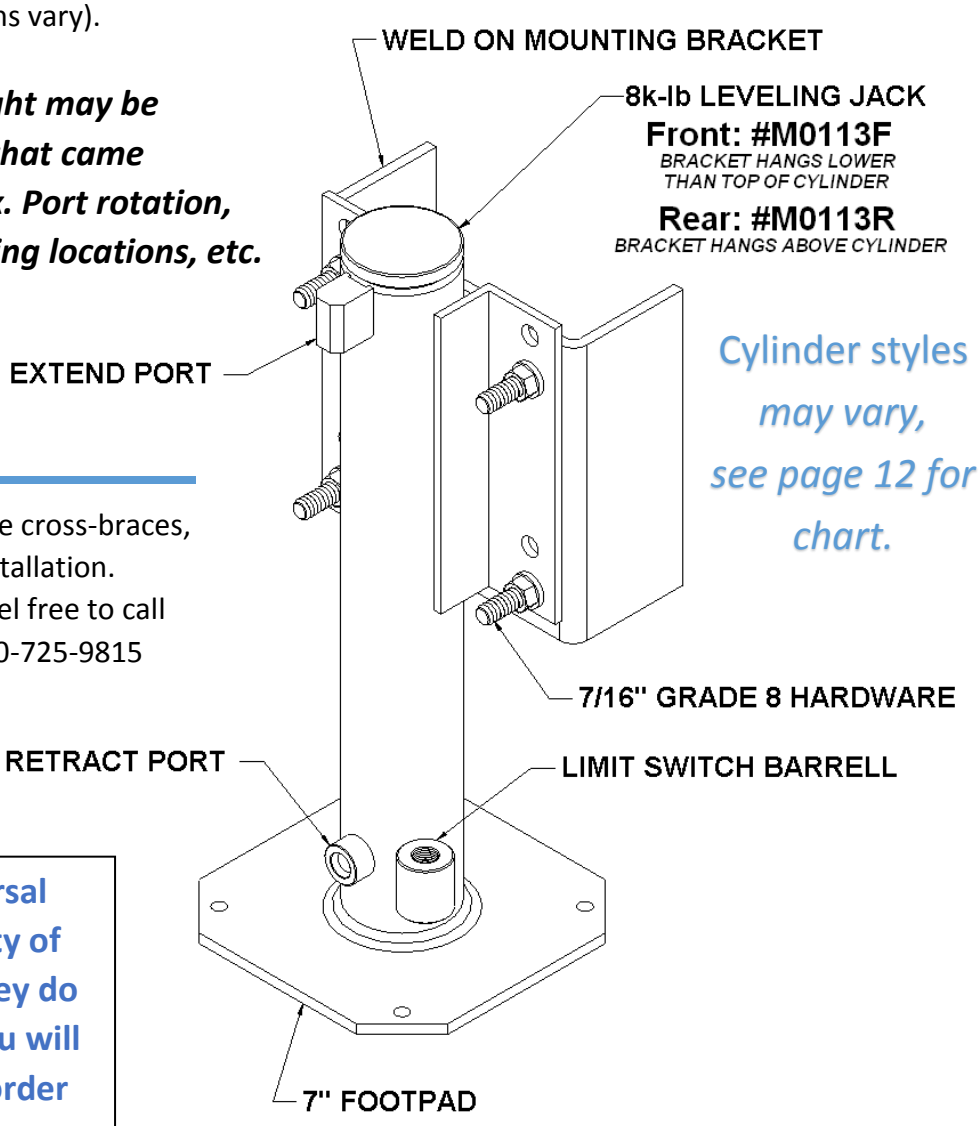
General Cylinder Installation & Assembly

Mounting the Cylinders

Pre-assemble jack prior to hanging on vehicle in specified location.

- Attach foot pad with ¾" thin jam nut using a 1 1/16" socket and impact. **Clockwise ONLY, do not reverse.**
- Remove port plugs with 3/16" allen wrench.
- Install supplied JIC elbow fittings to the bottom & top ports with 9/16" wrench.
- **DO NOT** install the extend hose to the top port on central pump systems yet, this will be done later on in installation (due to the length of hose they must go through a bleeding process), unless noted otherwise.
- Place ¼" clevis pin in limit switch barrel then insert threaded limit switch with 7/8" wrench (see wiring section later on in booklet).
- For jack locations see diagrams on the following pages, but typically the front jacks should be under the cab and the rear jacks should be within 60" behind the rear axle.
- Hang jack using at minimum of four 7/16" or two to four 1/2" Grade-8 bolts, hex nuts & lock washers.
- Typical cylinder ground clearance (ground to bottom of footpad) should be between 6" and 9" for optimum lift and road clearance (applications vary).

The cylinder shown to the right may be different from the cylinders that came in your vehicle specific kit, Ex. Port rotation, length, bracket style, mounting locations, etc.



Cylinder styles *may vary, see page 12 for chart.*

If your kit came with ¾" square cross-braces, they are required for installation.
If you have any questions feel free to call Quadra Manufacturing 800-725-9815

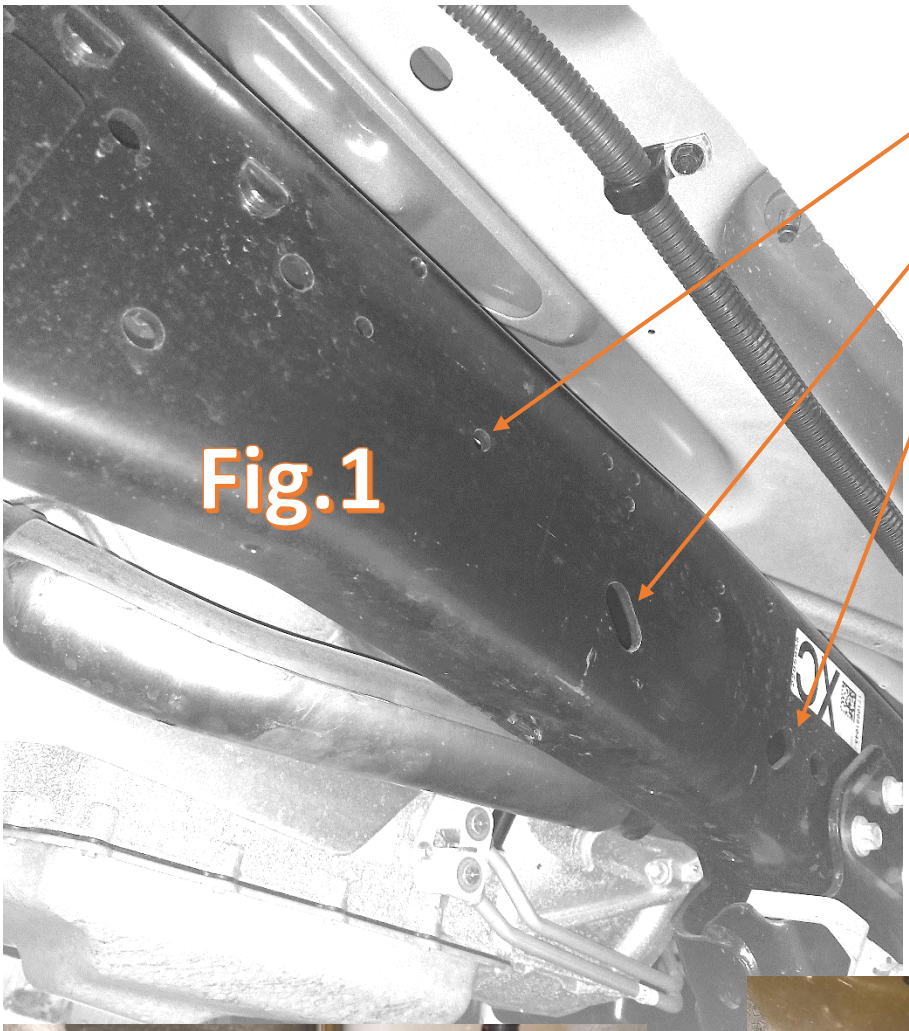
Hydraulic lines are universal lengths and fit the majority of applications, however if they do not fit your exact model you will need to call and place an order for longer lines.

FORD E-350 & E-450 CHASSIS CAB

FRONT CYLINDER MOUNTING

Additional drilling to frame may be required on pre-2008 Ford frames, or to increase attachment strength to vehicle.

Shown in Fig.1, underneath the cab is the passenger side front jack location, just behind front axle…



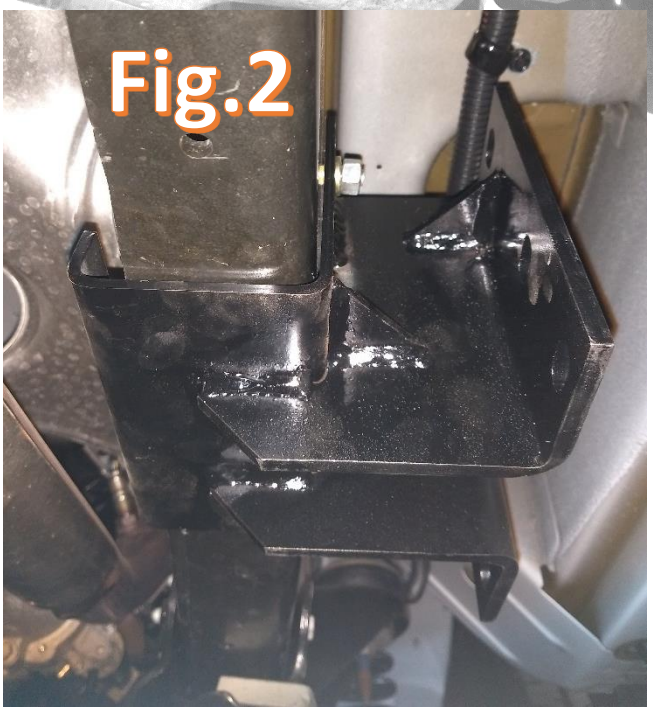
Locate 3/8” hole towards rear of 2nd slot.
(Use this hole for the front bracket)

Locate 2nd slot after 1st slot towards rear.
(Use this slot for the front bracket)

Locate 1st slot after suspension bracket.
(For reference, Not using this slot)

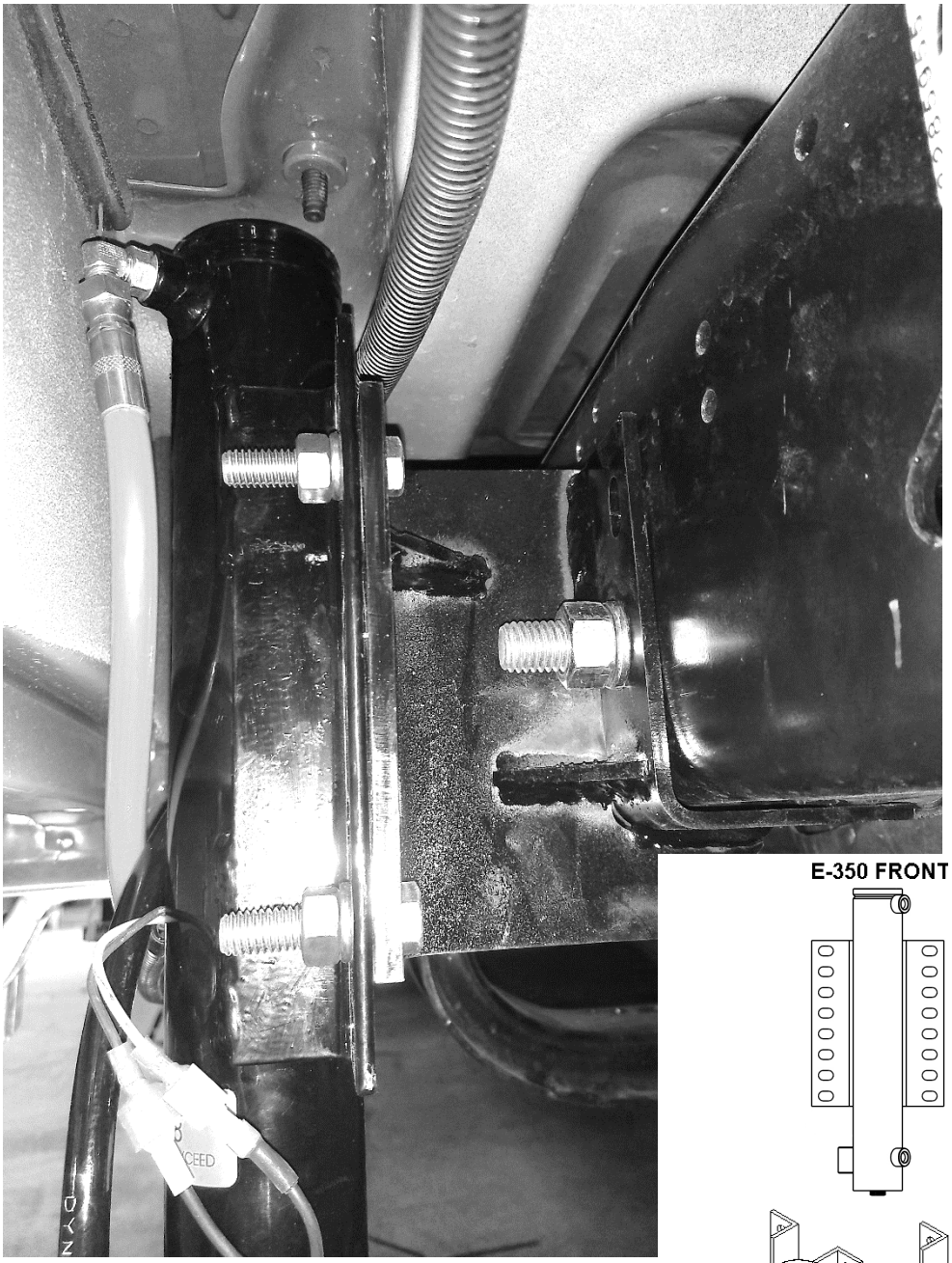
Fig.2. Passenger front mounting bracket shown fastened with 3/8” hardware (perspective facing front of vehicle).
NOTE: Bracket surface is tight to bottom of Ford frame for proper lifting surface, and straight before tightening to 50 ft/lbs.

Fig.3. Passenger front mounting bracket Shown fastened with 5/8” hardware (perspective facing rear of vehicle).
NOTE: Bracket surface is tight to bottom of Ford frame for proper lifting surface, and straight before tightening to 80 ft/lbs.



FORD E-350 & E-450 CHASSIS CAB

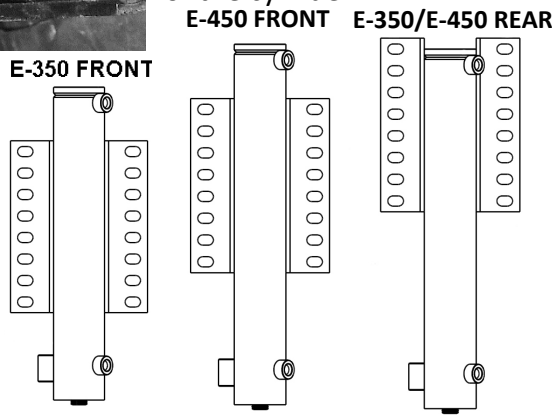
FRONT CYLINDER MOUNTING CONTINUED…

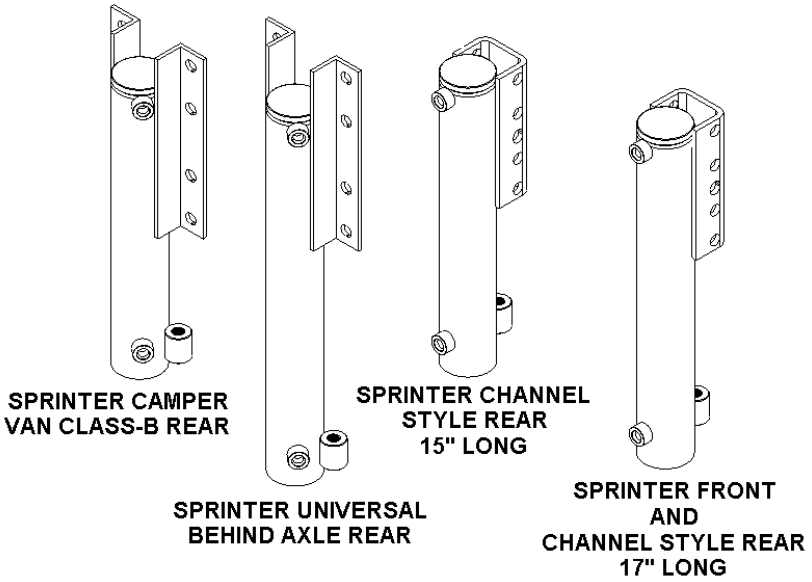


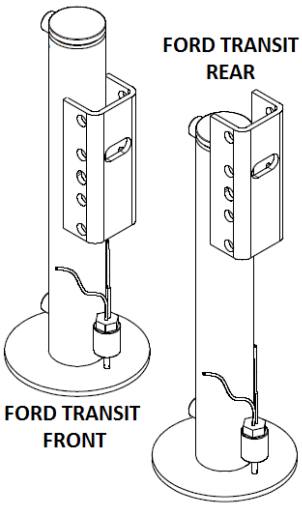
Passenger front shown with 8k13 #M0213F cylinder (perspective facing rear of vehicle). Note how cylinder is mounted above the frame in a “pocket” of the Ford body for higher ground clearance. Fasten cylinder to front mounting bracket with a minimum of four supplied 7/16” Grade-8 bolts 1.75” long with nuts and lockwashers. Make sure cylinder is straight and level, proceed to tighten bolts to 70 ft/lbs.

Front cylinder on Ford chassis: Angle bracket is 2.5” below to top of the cylinder.

Rear cylinder on Ford chassis: Angle bracket is ½” above the top of the cylinder.



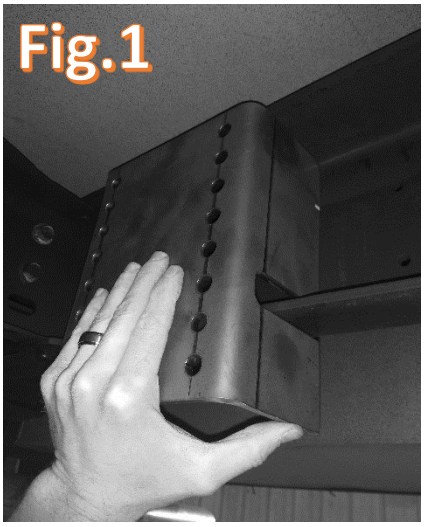




Cylinder Identification

FORD E-350/E-450

MOUNTING REAR CYLINDERS



Drilling to the Ford frame (not on the frame extension)

Fig.1. Locate the first Ford cross-member (between the frame rails) after the rear axle's rear leaf spring perch bracket. Hold the rear inside mount bracket (#M29352) up to the frame as shown. Ensure the bracket is tight to the flanges of the Ford frame for structural support. Rear cylinders should always be within 60" from the rear axle. Care to not interrupt departure angles when placing rear cylinders. Departure angle, imagine placing string from center of rear tire making contact with the ground and the furthest and lowest point of the vehicle (typically hitch receiver or bottom of rear bumper). Always position as close to rear axle as possible and up high enough to not interfere with departure angle.

Fig.2. Mark the holes as shown on the frame rail. Four holes are required per bracket. Do this for both sides.

Fig.3. After all eight holes (four on each side) are marked, set brackets aside. Using a center punch and smaller drill bits to start, proceed to drill all holes through the Ford frame up to a minimum diameter of 7/16" (.44") or maximum diameter of 31/64" (.48") for the supplied 7/16" Grade-8 hardware.

Attach the rear cylinder to the inside mount bracket using the supplied 7/16 x 1.5" bolts, lockwashers and nuts (two per leg) use the bottom holes of the bracket and whichever cylinder holes near the bottom you believe will work for your vehicle height (you can hold both up to check ground clearance and departure angles). Tighten the 7/16" x 1.75" bolts down to 70 ft/lbs. Now place the assembly up to the frame and insert the four supplied 7/16" x 5" bolts through the frame holes and into the bracket and cylinder assembly. When cylinder is straight and level and ground clearance is checked, tighten to 70 ft/lbs. Do the same to both sides.

If mounting the rear cylinders directly to the outside of the frame, follow same basic procedure and mark holes in the frame though the cylinder's holes at correct height and position, drill holes and utilize at minimum four 7/16" Grade-8 bolts per cylinder and tighten to 70 ft/lbs. Make sure the supplied cross-brace is used when mounting the cylinders between the frame rails.

Welding to the Ford frame (not on the frame extension)

Locate the proper bracket location on the frame for test fit. Bolt the cylinder to the weld-on bracket (70 ft/lbs.) and test fit again, verify proper ground clearance, take care not to interfere with departure angle and place cylinder as high as possible for best ground clearance. Recommended to mount the cylinder to the bracket prior to welding the bracket to the frame. When it is time to weld, use floor jack or a partner to hold the jack in place, at the proper height, and straight and level before welding. Put as much vertical surface weld on as possible (Ford recommends not to weld to horizontal flanges to avoid any new model frame warranty issues). Make sure cross-brace is installed when mounting between the frame rails.

Attention:

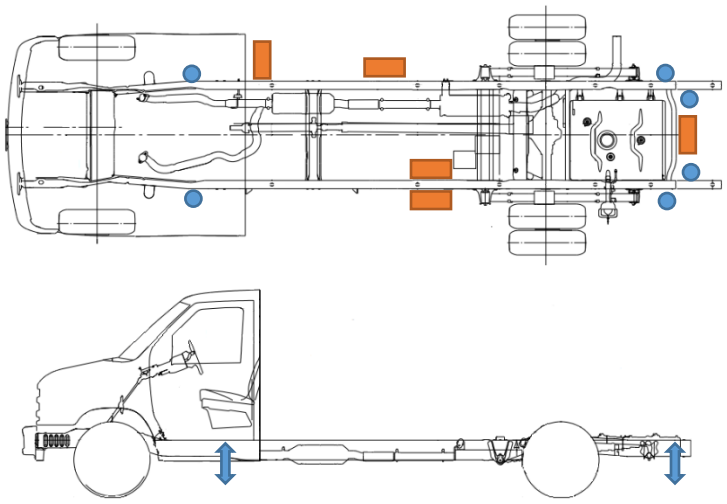
Modification to your RV or vehicle's storage boxes, body, floor, exhaust, interior, relocation of components, etc., may be required for the system installation. Longer or shorter hose lengths, extension of wiring, additional hardware, modifications or custom brackets or methods of attachment to the vehicle frame may be required for your particular installation…

Not all RV's are manufactured equally.

Ford E-350/E-450

Possible Cylinder Locations (Blue)

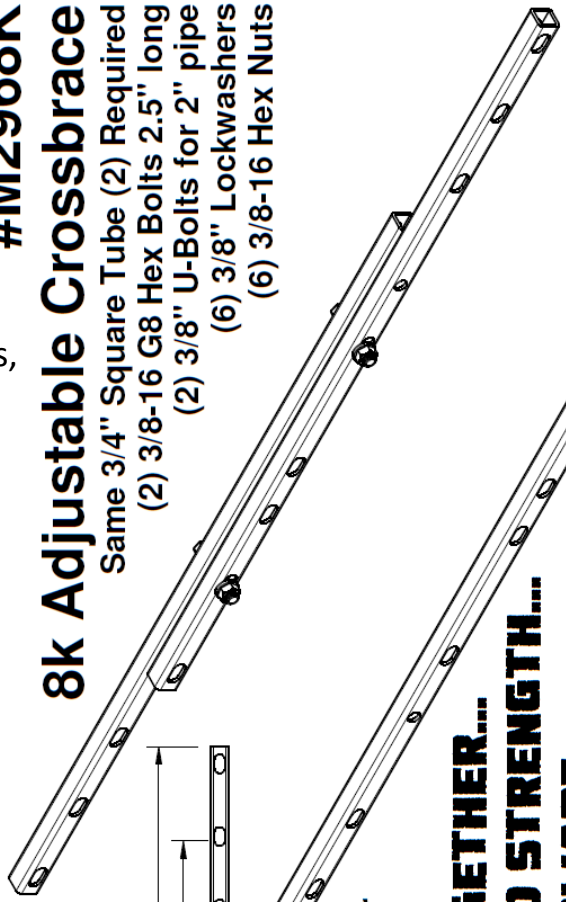
Possible Pump Locations (Orange)

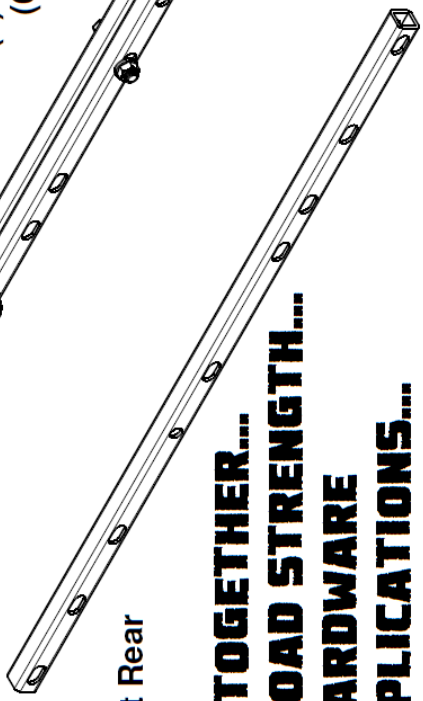


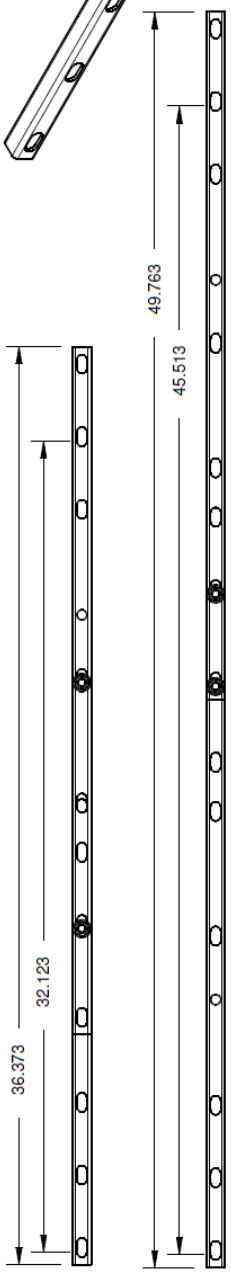
#M2968K

8k Adjustable Crossbrace

Same 3/4" Square Tube (2) Required
(2) 3/8-16 G8 Hex Bolts 2.5" long
(2) 3/8" U-Bolts for 2" pipe
(6) 3/8" Lockwashers
(6) 3/8-16 Hex Nuts



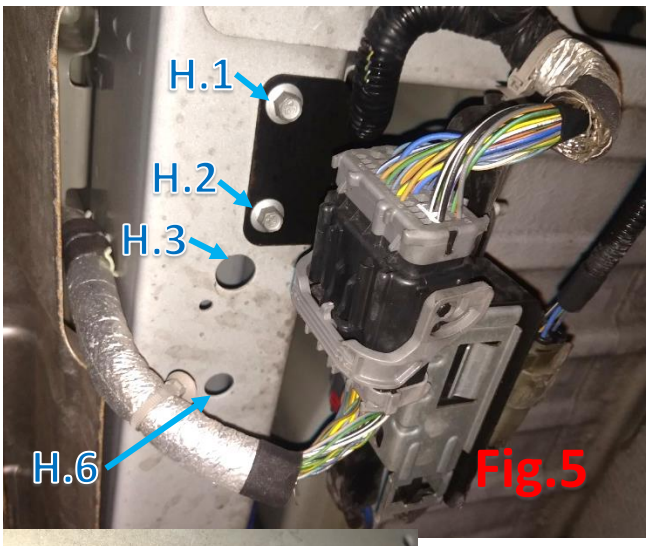




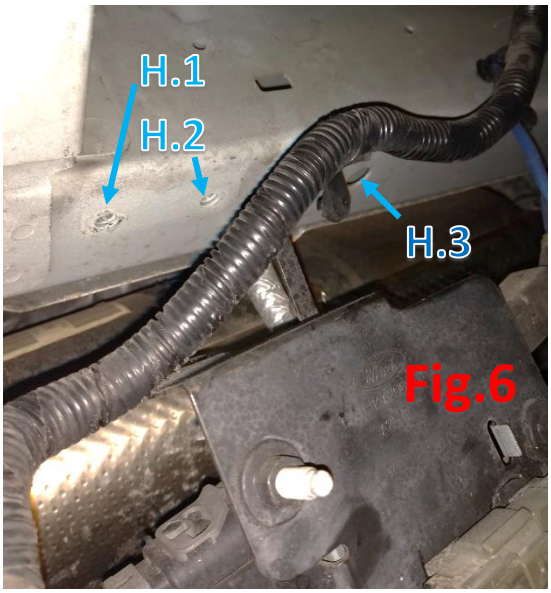
Applications:
Ford E-450 Inside Mount Rear, Chevy 4500 Inside Mount Rear,
Sprinter Channel Front, Sprinter Channel Staggered/Inside Mount Rear
Sprinter Universal 4pt 8k15 Rear (replaces crossplate)

-BOLTS PASSENGER & DRIVER CYLINDERS TOGETHER…
-ADDS STABILITY AND ADDITIONAL SIDE LOAD STRENGTH…
-DRILLING MODIFICATION OR DIFFERENT HARDWARE MAY BE REQUIRED BASED ON CERTAIN APPLICATIONS…

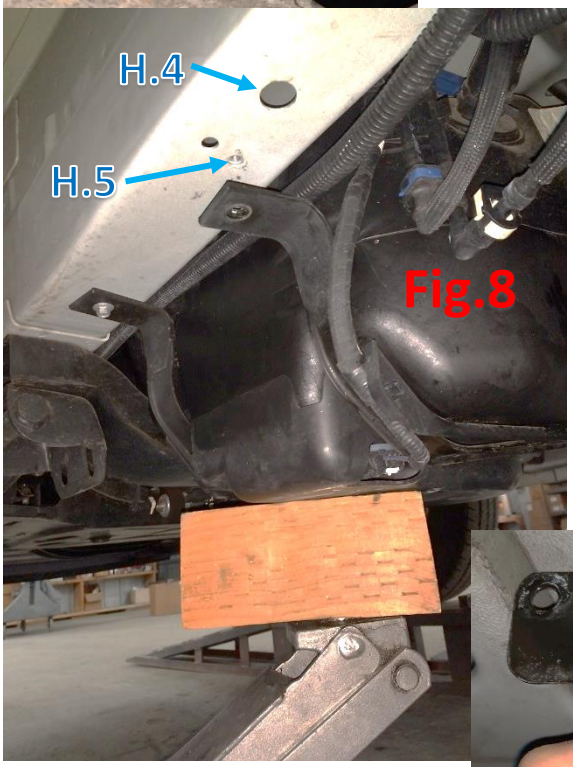
FORD TRANSIT 350HD (DIESEL) FRONT CYLINDER BRACKET PREP



Locate “Front Nox Module” located on passenger front cylinder location under cab’s passenger seat shown in Fig.5. Remove two 8mm bolts with 10mm socket (keep bolts), unclip all plastic rivets releasing the cables from the frame (Fig.6), then slide “mounting tab” from hole in frame as shown in Fig.7, so module hanging near exhaust. Locate exising holes in frame labeled H.1, H.2, H.3, as these holes will be utilized to mount cylinder bracket.

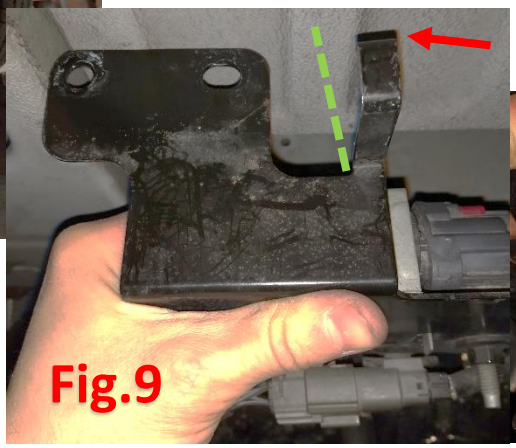


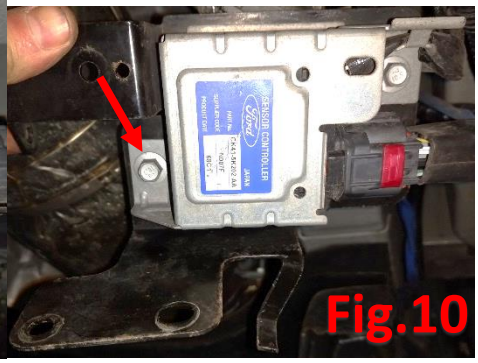
On the driver side, locate the DEF tank, and the rear tank strap 8mm bolt Fig.8. Place a jack under the DEF tank for support and remove said bolt with 10mm socket (keep bolt). Locate holes H.4 & H.5 as these holes will mount the cylinder bracket.



See Fig.9, locate “mounting tab” as mentioned in Fig.7. This part needs to be bent so it roughly lines up with green line in Fig.9. You can do this by tapping tab with small hammer from direction shown in arrow. This will come in to play when the module is mounted to the cylinder bracket itself.

Fig.10, Remove bolt from module and keep for later use.

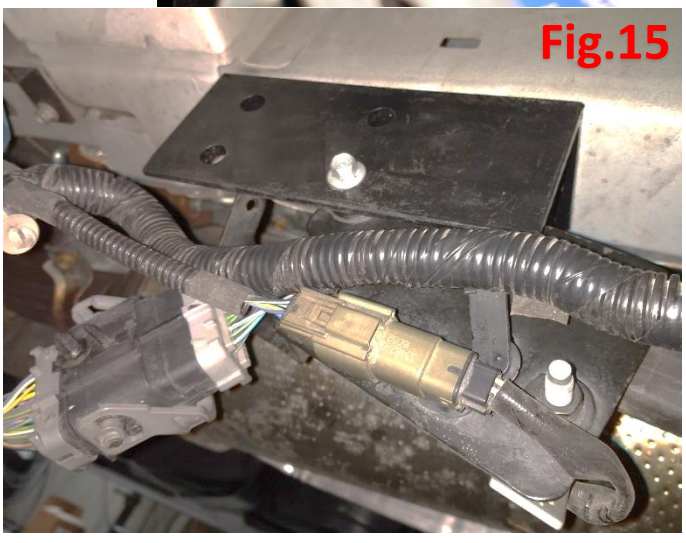




FORD TRANSIT 350HD (DIESEL) FRONT CYLINDER BRACKETS

Driver side, place bracket under frame as shown in Fig.11, then re-install bolt and tank strap into hole H.5 in frame sandwiching bracket to frame. Make sure 11/16" hole is lined up prior to tightening (do not strip thread). Now insert 11/16" BlindBolt into hole H.4, use 7/8" wrench (easier with thin wrench) and 11/16" socket (DO NOT USE A WASHER WITH BLINDBOLTS), make sure bracket is straight with frame and tighten BlindBolt (roughly 80-90 ft/lbs.).

Passenger side Fig.12, place bracket to frame similar to driver side, install both 8mm bolts that originally mounted module bracket to frame into holes H.1 & H.2, make sure bracket is straight with frame and 11/16" hole is lined up with hole H.3. Install 11/16" BlindBolt into hole H.3 using same method as above. Now place module in place as shown in Fig.13, "mounting tab" will slide inside hole H.6 and bracket. The bolt previously removed from the module will now be inserted through cylinder mounting bracket (Fig.15) into module mounting bracket (welded nut), fasten tight once "mounting tab" is inserted properly with tension (Fig.13 & Fig.14).

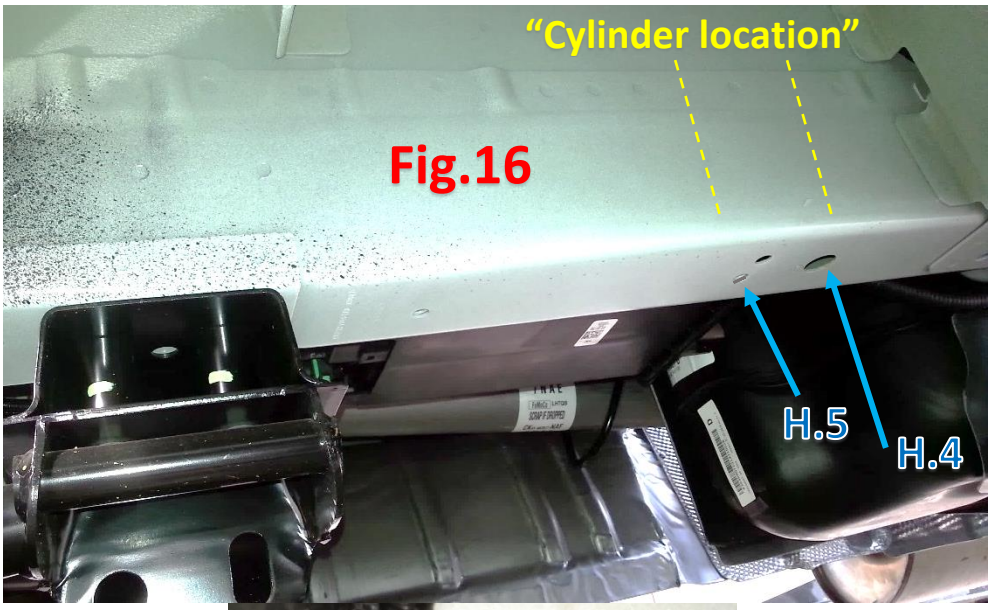


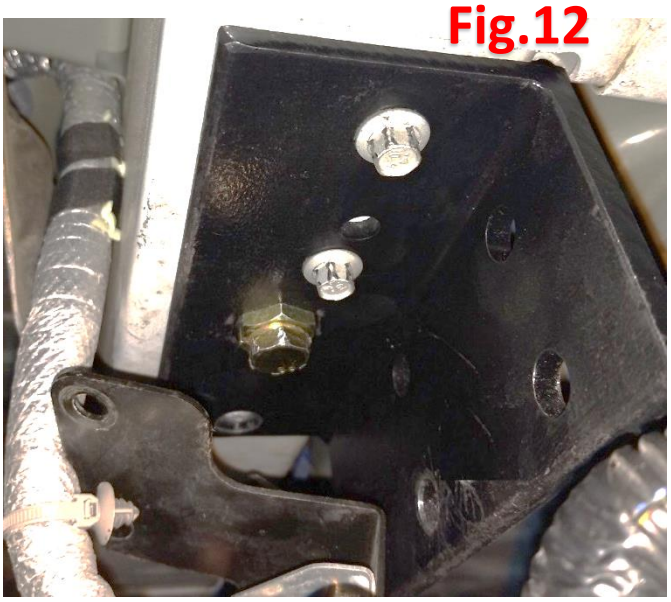
FORD TRANSIT 350HD (GAS) FRONT CYLINDER BRACKETS

Driver side Fig.16, locate holes H.4 (11/16") & H.5 (sleeved roughly 5/16"). Place bracket under frame as shown in Fig.11 with vertical face of bracket facing outside of vehicle where cylinder will mount in "cylinder location" in Fig.16. Insert 8mm thread forming bolt into hole H.5. Make sure 11/16" hole in bracket is lined up to H.4 prior to tightening, DO NOT strip or overtighten thread forming bolt when installing into H.5 hole. Now insert 11/16" BlindBolt into hole H.4, use 7/8" wrench (easier with thin wrench) and 11/16" socket (DO NOT USE A WASHER WITH BLINDBOLTS), make sure bracket is straight with frame and tighten BlindBolt (roughly 80-90 ft/lbs.). OPTIONAL: Install 2nd BlindBolt in bracket hole H.7 (Fig.11), drill into frame with 11/16" bit, install BlindBolt same method as mentioned previously. Since this is an optional part , must call to order part #M80660, this is not required for installation or standard leveling conditions, it is recommended for extreme leveling conditions, heavier loaded vehicles, etc. for additional strength.

Passenger side Fig.12, place bracket to frame similar to driver side, install both 8mm bolts into bracket and holes H.1 & H.2, make sure bracket is straight with frame and 11/16" hole is lined up with hole H.3. Install supplied 11/16" BlindBolt into hole H.3 using same method as above.

Make sure mounting brackets are straight, with vertical surface of the mounting bracket to the outside of the vehicle.

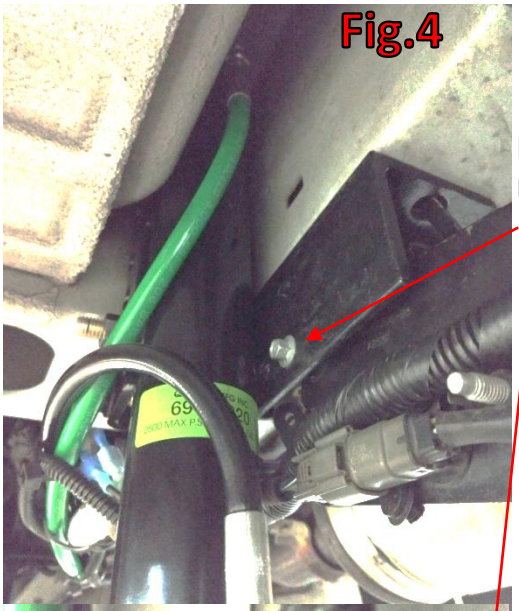




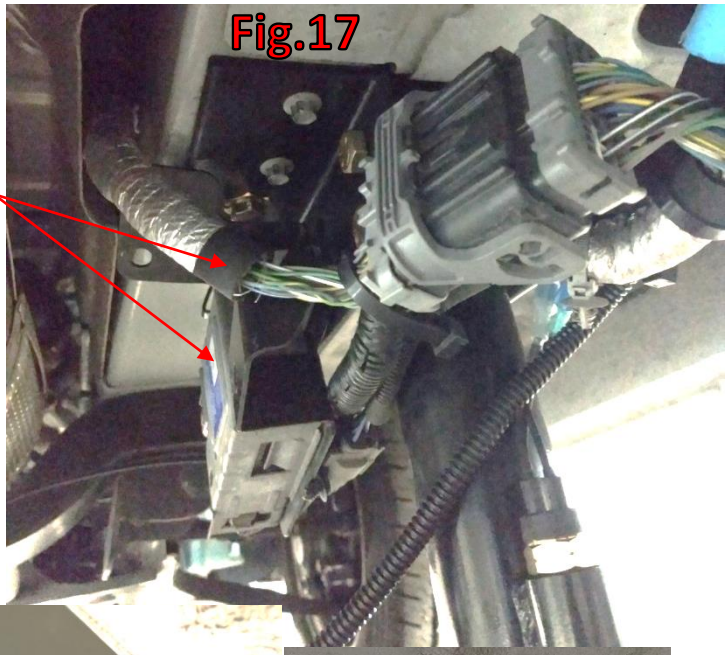
FORD TRANSIT 350HD (GAS/DIESEL) FRONT CYLINDER INSTALL

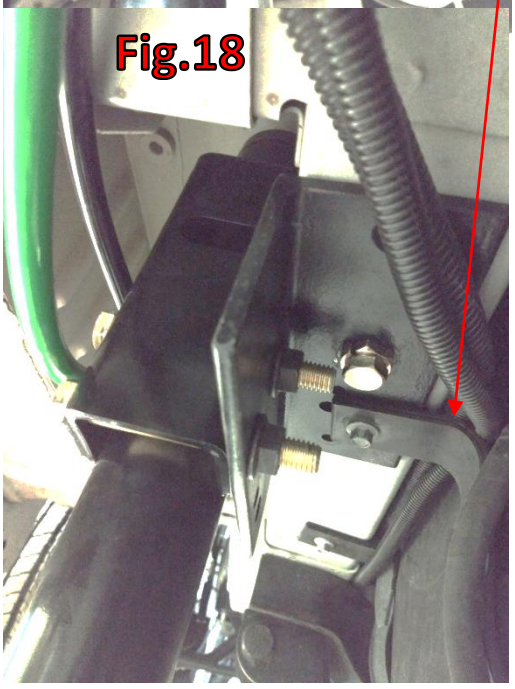
See page 12 for cylinder identification or Fig.19. With brackets in place and tight to frame, mount cylinders to bracket as shown. For passenger front, see Fig.4 & Fig.20. Note how cylinder fits tight into pocket between step well and frame, towards very rear of pocket, cylinder ports will face front of vehicle. Install fittings (elbows, 9/16" wrench) and passenger front extend hose (should be 9ft green hose) with 15mm wrench. Do not overtighten, hand tighten, then ¼ turn. You can verify hose length will work to pump location (see page regarding pump mounting for details). Cylinder will mount to bracket with bottom two holes and two 1/2" x 4" long hex bolts and locking nuts, make sure cylnder is as straight as possible, then tighten to 100 ft/lbs.
Now that cylinder is attached, zip tie harnesses connected to the "Ford Nox Module" to the cylinder, cylinder bracket, etc.; provide as much clearance from the exhaust as possible to avoid heat damage to wiring harness (Quadra is not responsible for any wiring/electrical components related to customer installation), Fig.17.

Driver side front, Fig.18, this cylinder will be slightly forward of passenger side, mount using same bottom holes in cylinder and same 1/2" x 4" hardware as above, straighten cylinder then tighten.



"GAS chassis"
Ignore following:
Module & harness
8mm bolt
Fuel tank strap

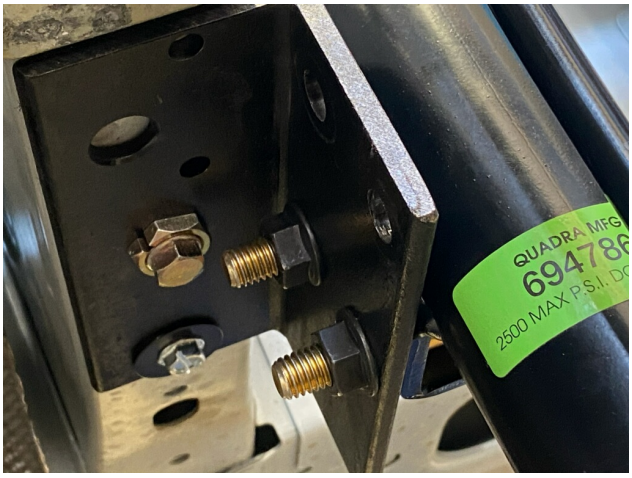




Alternate Front Passenger Installation

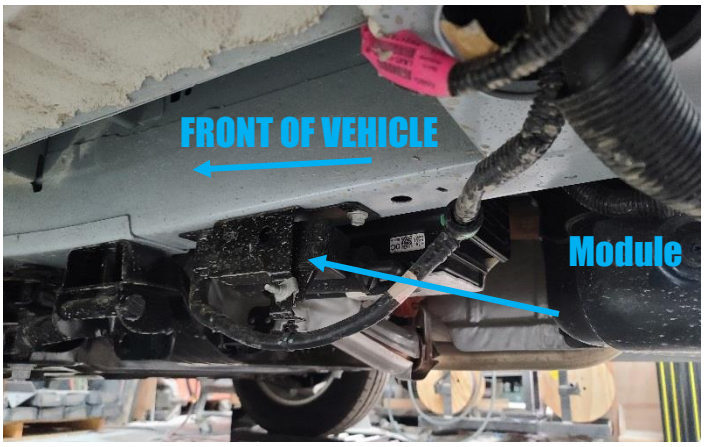
• Due to the limited amounted of space for the installation of the front passenger cylinder in front of the chassis cross-member, it may be preferable to relocate the cylinder to the rear of the chassis cross-member. (As seen below)

• As this alternate installation method gives the front jacks a staggered or diagonal layout, the cross-brace will not be able to be installed.



FORD TRANSIT 350HD (2020 GAS AWD) FRONT CYLINDER INSTALL

The “Ford Module” for the AWD is shown on the right, on the driver side frame rail.



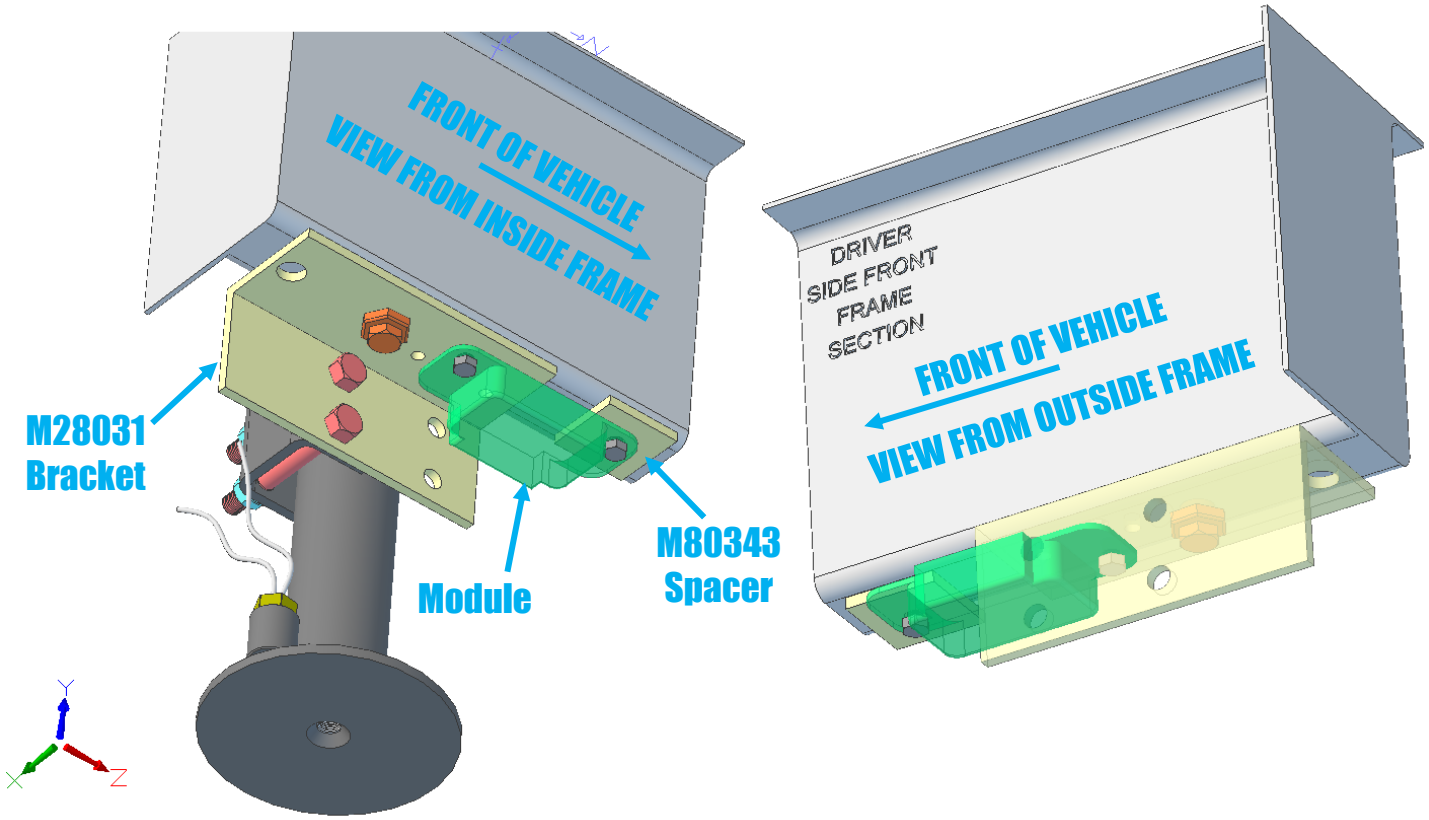
Remove the module with the two M8 self-threading bolts (set aside).

Place M28031 bracket on frame for mounting (follow instructions pages 15-18). This procedure is similar to the step in page 18, Fig.18 in the manual with the fuel tank strap for Diesel chassis.

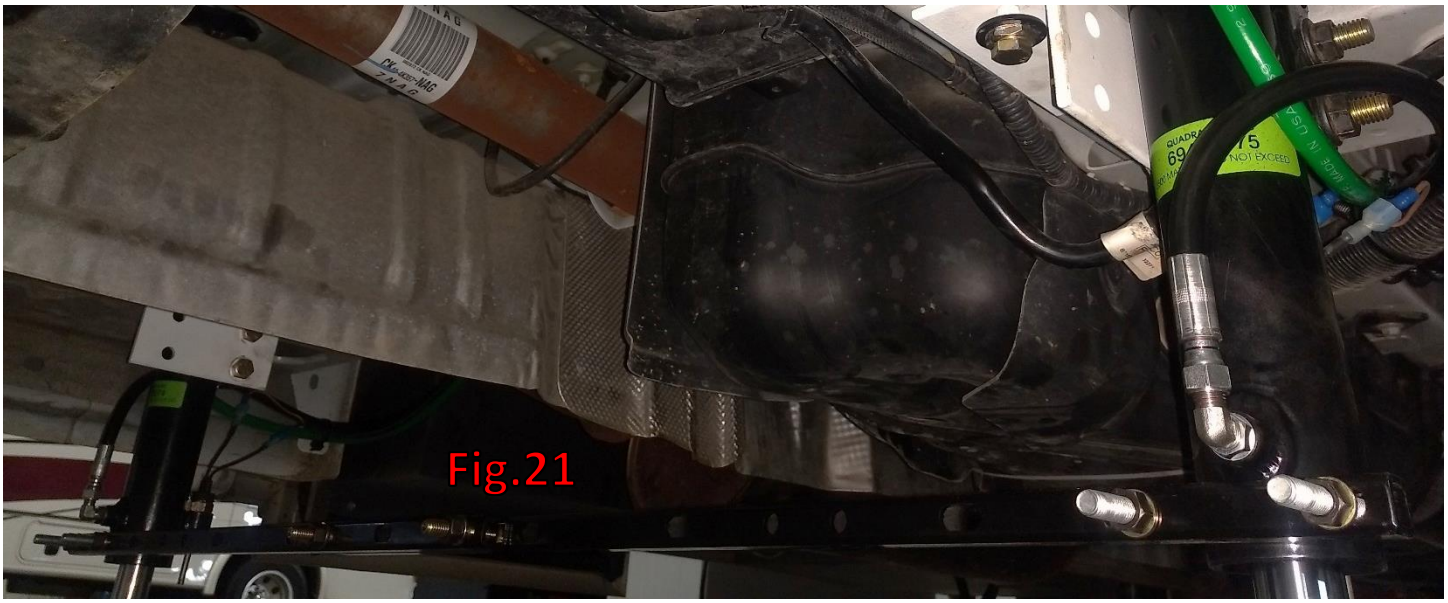
After bracket is installed with blind bolt, remove M8 bolt again in order to re-install the module.

Using the M80343 spacer for the front bolt, re-install the module with the two M8 bolts as shown below.

If there is interference between the module and the vertical inside face of the M28031 bracket, open holes for the M8 bolts in the module or the M28031 bracket so it can be installed.

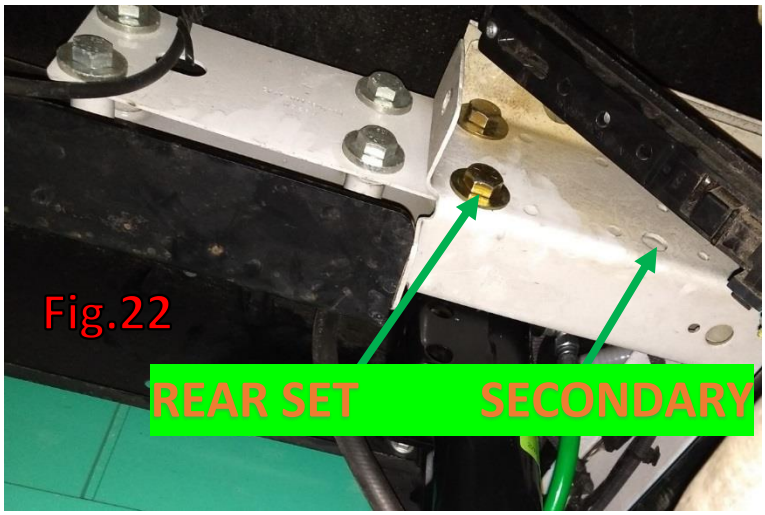


FORD TRANSIT 350HD MOUNTING FRONT CROSSBRACE



See page 14: ATTACH CROSSBRACE AFTER BOTH JACKS INSTALLED USING 9/16" DEEP SOCKET & WRENCH. SQUARE TUBE & U-BOLTS WRAP UNDER FITTING AND LIMIT SWITCH BARREL JUST ABOVE THE FOOTPAD. FIND TWO HOLES IN CENTER OF UNIVERSAL TUBES THAT LINE UP, INSTALL TWO 3/8" X 2.5" BOLTS, LEAVE ALL HARDWARE LOOSE UNTIL ALL BOLTS ARE IN PLACE, TIGHTEN UNTIL SQUARE BRACE STARTS TO CRUSH.

FORD TRANSIT 350HD MOUNTING REAR CYLINDERS



LOCATE FRAME EXTENSION LOCATION ABOUT 3-4FT BEHIND REAR AXLE, JUST REAR OF THE REAR LEAF SPRING MOUNT (Fig.26). CYLINDERS CAN UTILIZE EXISTING HOLES IN THE FRAME, AND CAN BE MOUNTED ON THE OUTSIDE OR INSIDE FACE OF THE FRAME, OR ONE OR THE OTHER. THERE ARE TWO SETS OF HOLES TO LOOK FOR ON THE FRAME NEAR THE FRAME EXTENSION:

#1: REAR SET OF HOLES IS FURTHEST TO REAR NEAR FLANGES, HAS HOLES ALREADY IN FRAME. CYLINDER HOLES LINE UP WITH FITTING SIDE OF CYLINDER FACING FRONT. SEE Fig.22-Fig.24.

#2: SECONDARY SET OF HOLES JUST IN FRONT OF THAT, THE HOLES ARE ONLY DRILLED THROUGH THE EXTERIOR SHELL OF THE FRAME AND YOU MUST FINISH DRILLING THE INSIDE SHELL OUT (THIN MATERIAL, DRILL BOTH SIDES OF SHELL) USE A 17/32" DRILL BIT. CYLINDER TO BE ROTATED SO FITTINGS FACE THE REAR. SEE Fig.25-Fig.26.

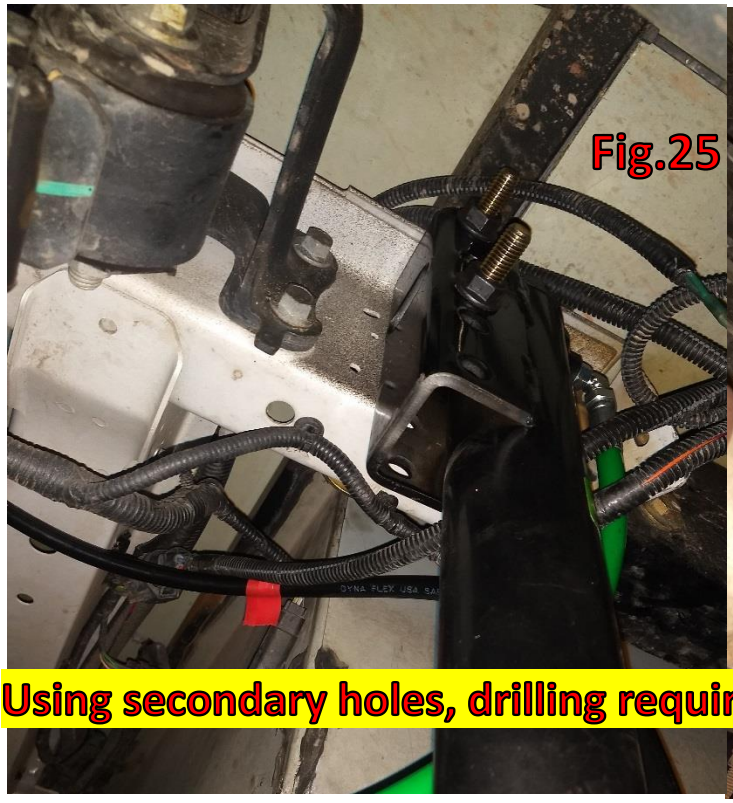
MOUNT WITH TWO 1/2" X 6.5" BOLTS, FLAT WASHERS & LOCKNUTS PER CYLINDER (LONGER BOLTS MAY BE REQUIRED IF DIFFERENT FRAME EXTENSION THAN SHOWN). MAY HAVE TO USE SPACERS TO CLEAR CERTAIN ITEMS ON VEHICLE, MAX SPACER THICKNESS = 3 WASHERS OR 3/16". TIGHTEN BOLTS TO 100 ft/lbs.

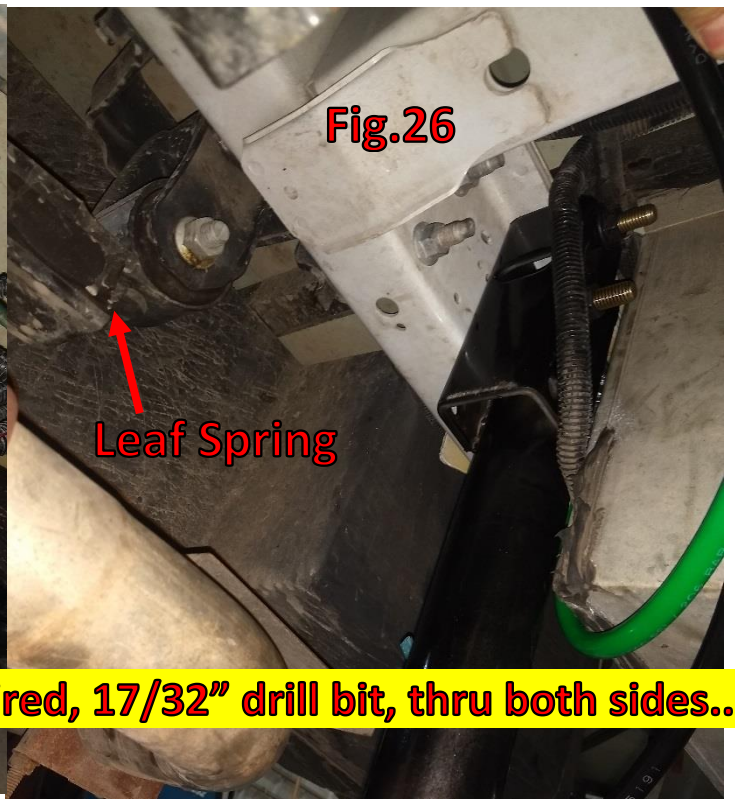
Rear crossbrace may be required if used spacers on cylinders, heavy duty vehicle or extreme leveling environment. Call to order #M2968K.

FORD TRANSIT 350HD MOUNTING REAR CYLINDERS CONTINUED…

Note Fig.23,
Cylinder has spacers between frame & cylinder for clearance between cylinder and plumbing near bottom of cylinder in pic.

HYDRAULIC LINES:
Rear cylinders use 9’ long hose, fronts will use 12’ long hose, These are typical, every applicaton is different and may require different lengths, must call to order.



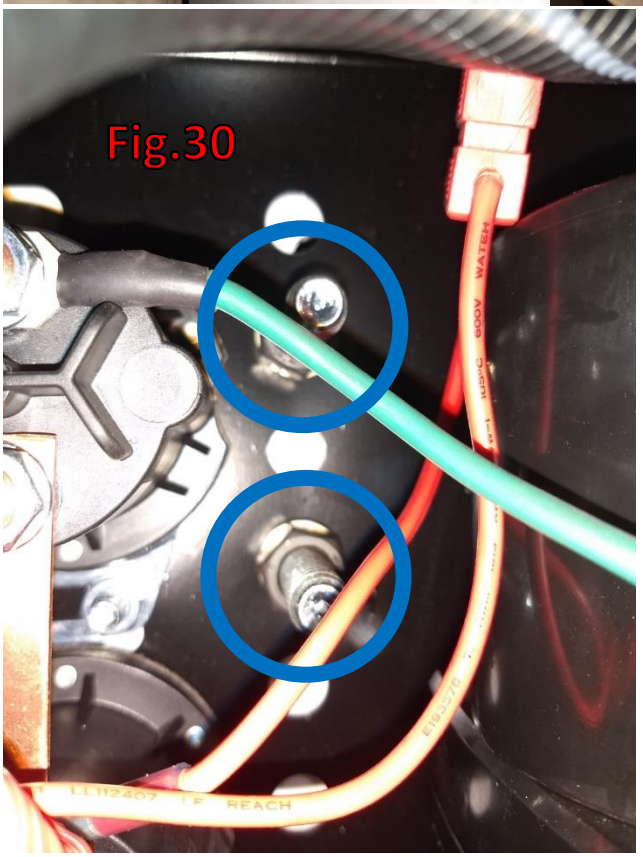


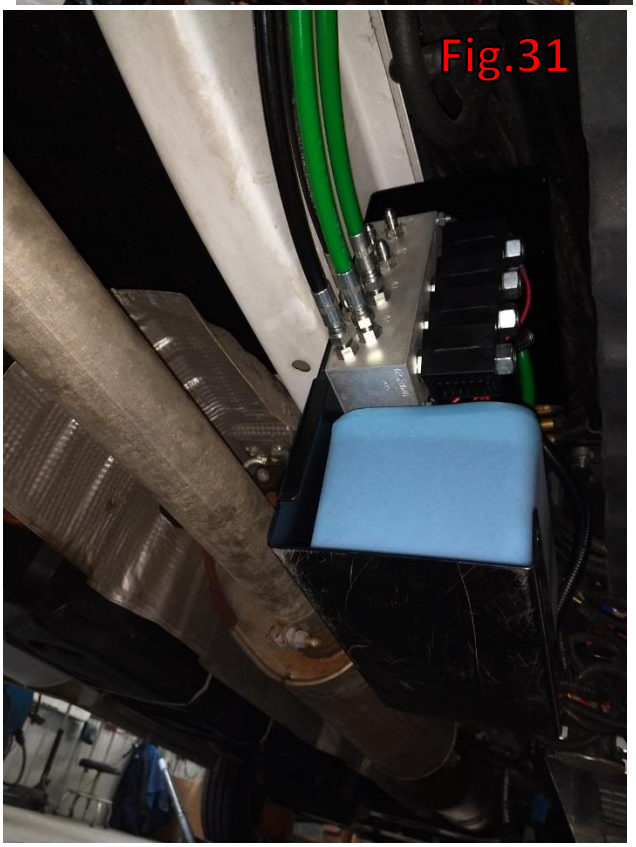
Using secondary holes, drilling required, 17/32” drill bit, thru both sides..

Rear crossbrace may be required if used spacers on one or both cylinders, heavy duty vehicle or extreme leveling environment. Call to order crossbrace #M2968K.

FORD TRANSIT 350HD MOUNTING PUMP ASSEMBLY OPTION #1

Identify Fig.27 for pump location, pump will be mounted on outside of frame rail on passenger side in front of rear axle. Pump will be bolted directly to frame using two existing holes in the frame near exhaust shown in Fig.28. Run both 7/16" x 4" full threaded bolts thru frame as shown in Fig.29, and thru pump assembly in Fig.30 & Fig.31. Tighten once pump assembly is straight. IMPORTANT: See page 23 for pump assembly diagram, information and fill reservoir prior to mounting.





Fill reservoir prior to mounting!

FORD TRANSIT 350HD MOUNTING PUMP ASSEMBLY OPTION #2

LOCATE FUEL TANK ON DRIVER SIDE FRAME BEHIND CAB AS SHOWN IN PICS BELOW, PUMP CAN UTILIZE EXISTING HOLE FRAME AT REAR OF TANK TO MOUNT TO FRAME. (Gas chassis shown below)

ONCE HOLE LOCATED, INSERT 7/16" X 4" FULL THREADED BOLT INTO FRAME FROM INSIDE AND HOLD PUMP ASSEMBLY UP IN PLACE, SLIDE BOLT THROUGH ONE OF THE MOUNTING HOLES IN THE CENTER OF THE ASSEMBLY, MOUNT AS HIGH AS POSSIBLE, MOST GROUND CLEARANCE, SEE Fig.30 HOLE REFERENCE. INSTALL NUT AND LOCKWASHER ON BOLT INSIDE PUMP ASSEMBLY (11/16" SOCKET AND EXTENSION OR WRENCH).

TWO OPTIONS FOR SIDE HOLES: #1 INSTALL TWO HEAVY 5/16" SELF-TAPPING SCREWS (1/2" SOCKET) AS SHOWN IN Fig.33 OR DRILL HOLE IN FRAME (1/2" DRILL BIT), CHECK CLEARANCE OF FUEL TANK BEFORE DRILLING AND UTILIZE 2ND 7/16" X 4" FULL THREADED BOLT SUPPLIED, BOLT USING SAME METHOD AS ABOVE.

IF THIS LOCATION IS NOT OPEN ON YOUR RV, YOU WILL HAVE TO FIND ANOTHER LOCATION, POSSIBLY IN OPEN AREA SHOWN BELOW BEHIND FUEL TANK ON INSIDE OR OUTSIDE OF FRAME, DRILLING WILL BE REQUIRED TO MOUNT. PUMP ASSEMBLY CAN BE MOUNTED ANYWHERE UNDERNEATH VEHICLE AWAY FROM MOVING PARTS OR EXHAUST. OTHER LOCATIONS TO CHECK: FASTENED TO BACK OR SIDES OF ENTRY STEP FRAME, STORAGE BOXES, RV SUBFRAME. LONGER HOSE LENGTHS OR HARDWARE MAY BE REQUIRED TO INSTALL PUMP IN NEW LOCATION WHICH ARE NOT INCLUDED IN THE KIT. PUMP MUST BE MOUNTED VERTICALLY.

Fill reservoir prior to mounting!

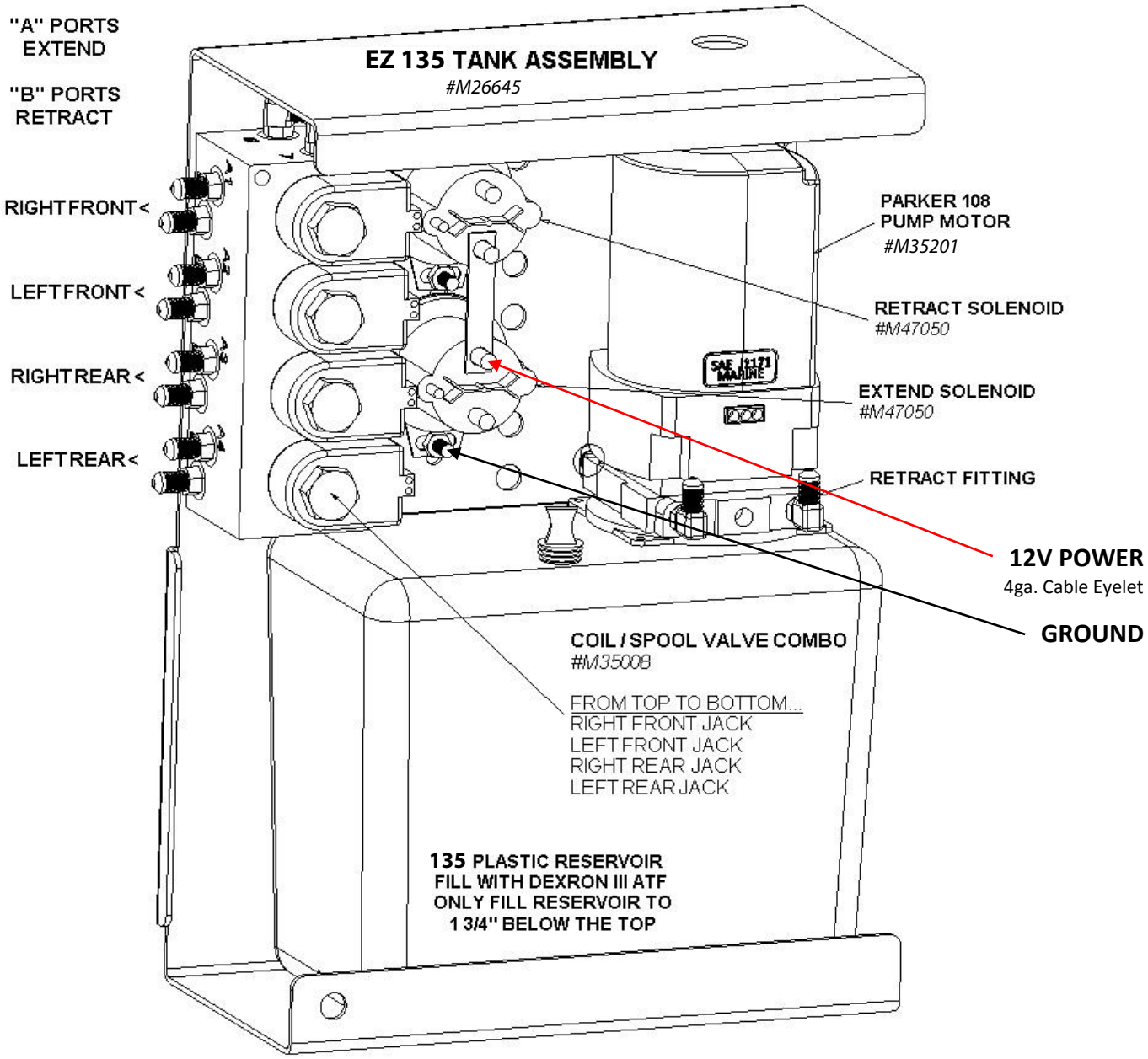
Vertical Tank Assembly for *Central Pump* Systems

Tank Assembly will be pre-assembled & pre-wired direct from factory.

See Page 14 for locations!

- Mount the pump using a minimum of two 7/16” bolts, nuts & lock washers.
- Plumbing is shown in Fig. 2 below, use 9/16” wrench and be careful not to under or over-tighten the hydraulic fittings. Sometimes marking the hydraulic lines with tape may make it easier.
- **DO NOT** install the top extend lines to the jacks themselves yet, this will be done later in installation.
- The main wire harness will plug directly into the 14-pin connecter that is pre-wired to the assembly.
- Route the ***ground cable*** (attached to ground shown below) to a grounded surface on the vehicle frame.
- Finally installing the plastic three sided tank cover, this should be done later on in the assembly.
- The tank cover will need to be trimmed to your liking around the hydraulic lines. Fasten the tank cover with at least two self-threading screws, be careful not to puncture the plastic reservoir.

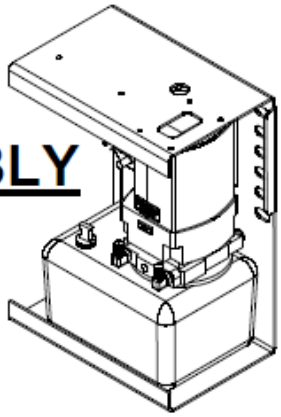
Fig. 2



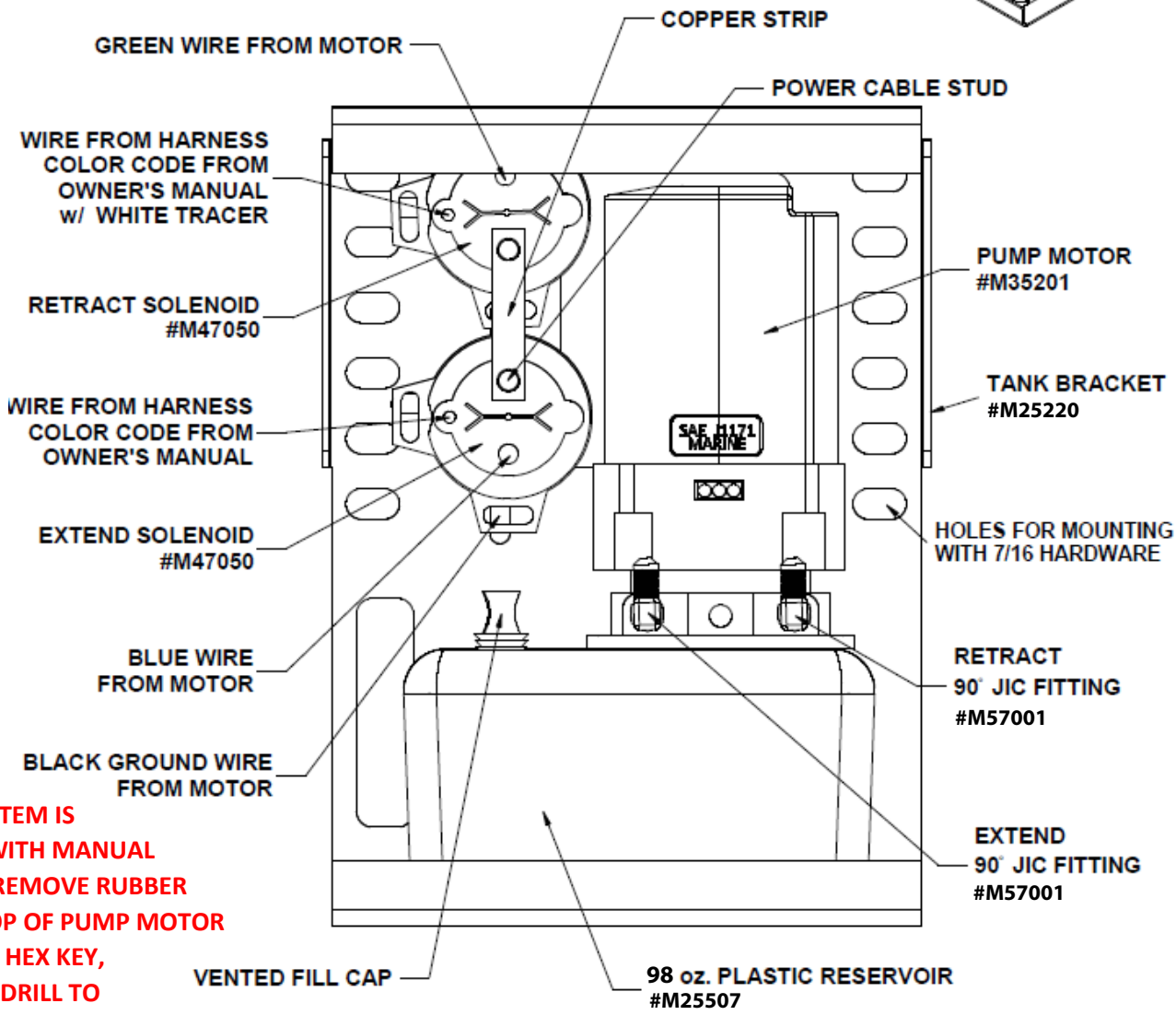
Central tank assembly is typically located near the “center” of the unit, Example: In front of rear axle on driver side frame rail (outside or between rails). Can be mounted to existing boxes, sub-frame, etc.

MEDIUM TANK ASSEMBLY

#M26850



OVERALL DIMENSIONS:
9" WIDE
12.5" TALL
5.75" DEEP



IF YOUR SYSTEM IS EQUIPPED WITH MANUAL OVERRIDE, REMOVE RUBBER PLUG ON TOP OF PUMP MOTOR AND INSERT HEX KEY, TURN WITH DRILL TO OPERATE JACK UP/DOWN

4 PT WIRING HARNESS COLOR CODE DIAGRAM:
LEFT FRONT: GREEN/WHITE & GREEN
RIGHT FRONT: BLUE/WHITE & BLUE
LEFT REAR: GREY/WHITE & GREY
RIGHT REAR: BROWN/WHITE & BROWN

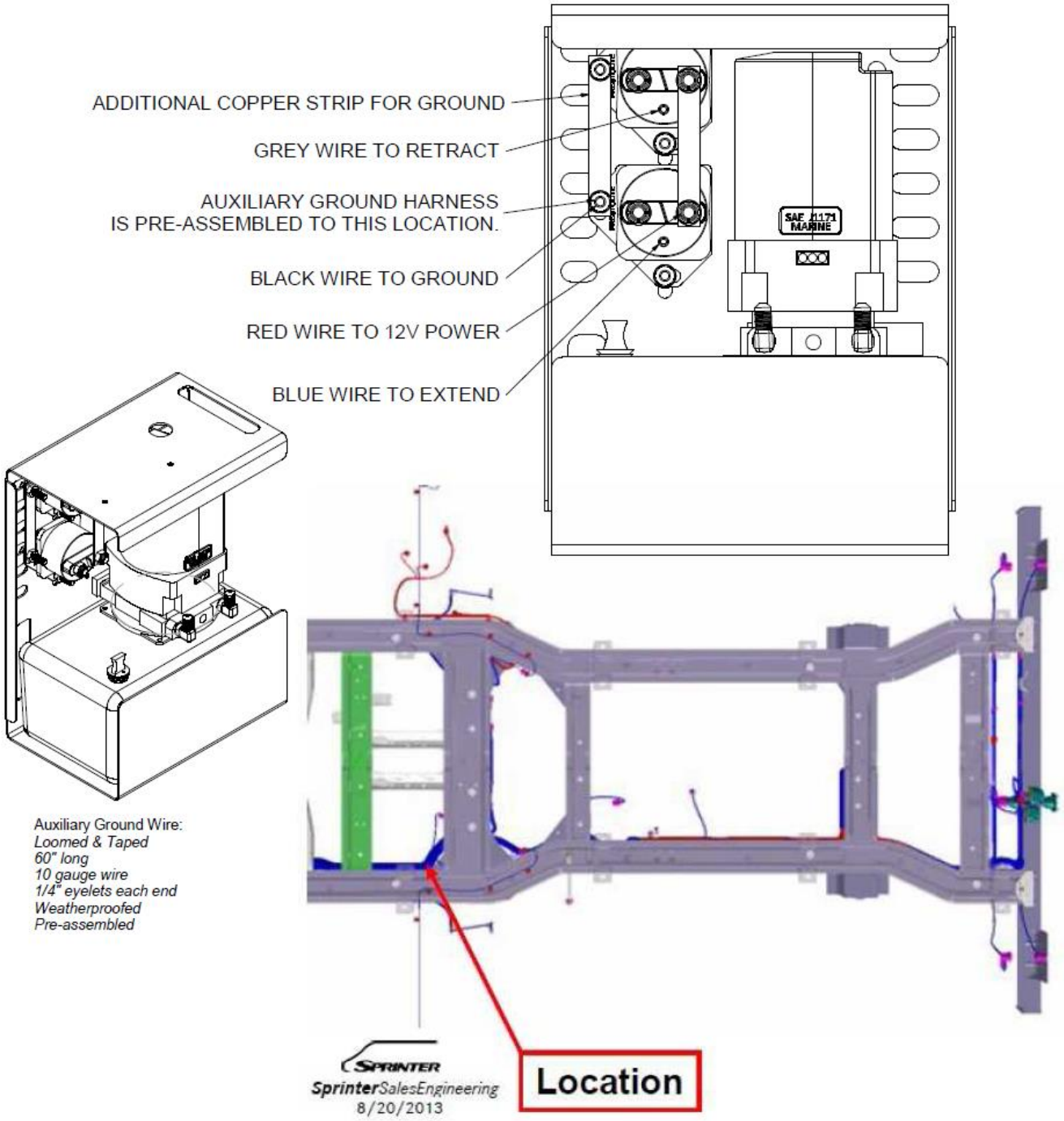
NOT PICTURED:
TANK COVER
(BLACK TEXTURED PLASTIC)
#M12002

Mounting Tank Assemblies

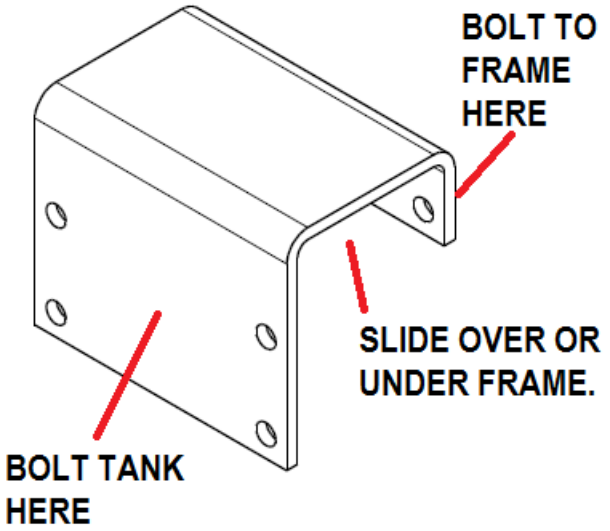
Our tank assemblies are weather resistant and must be mounted vertically and can be mounted externally on the vehicle's frame by drilling holes in the frame or welding a bracket, tanks can be mounted to a cylinder bracket or inside a storage box. Use at minimum two 7/16" or 3/8" bolts per tank assembly. Take care when mounting and running hydraulic lines & wiring to avoid moving parts, exhaust, etc.

Grounding your tank assembly…

Each pump requires 12V power and sometimes an additional ground is required for the pump/motor to operate correctly. This is true for central pump, quad pump and 2pt systems. An auxiliary ground harness (optional) could come pre-wired to the tank assembly, otherwise attach a minimum 10 gauge wire from the location shown below (solenoid mounting stud from each solenoid) and to a good grounded surface on the vehicle frame or directly to the negative terminal on the battery. Quad pump or 2pt assembly shown below, but the same solenoids are used on the vertical central pump assembly. At the bottom of this page is a picture of the Mercedes Sprinter (chassis cab) ground location in front of the rear axle, RV manufacturer may have other ground studs similar.



FORD E-350/450 TANK MOUNT BRACKET



This #M29311 tank mount bracket (to the right) enables the tank assembly (quad pump or central pump assemblies) to mount in-between the frame rails on the Ford's channel frame. Typical open location is on the driver's side in front of the rear axle. For quad pump systems, maybe install both rear tanks or both front tanks. This brackets slides over the top or underneath the channel, allowing a vertical surface over the "open" area of the channel style frame where the cables and wiring are attached. Take care not to drill into the wiring when mounting this to the frame. Simply bolt the tank to the other side using a minimum of two bolts. You can mount the tank using just one side of the bracket to the tank (Ex. To left holes on bracket and tank), the tank body is strong enough to support the weight of the assembly (7/16" hardware and lockwasher required, torque to 70 ft/lbs.).

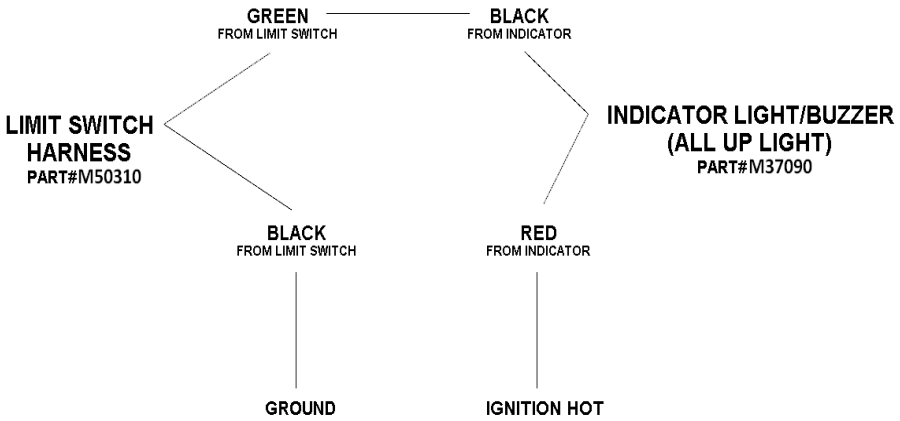
Main Wire Harness *–Automatic Leveling & Platinum System*

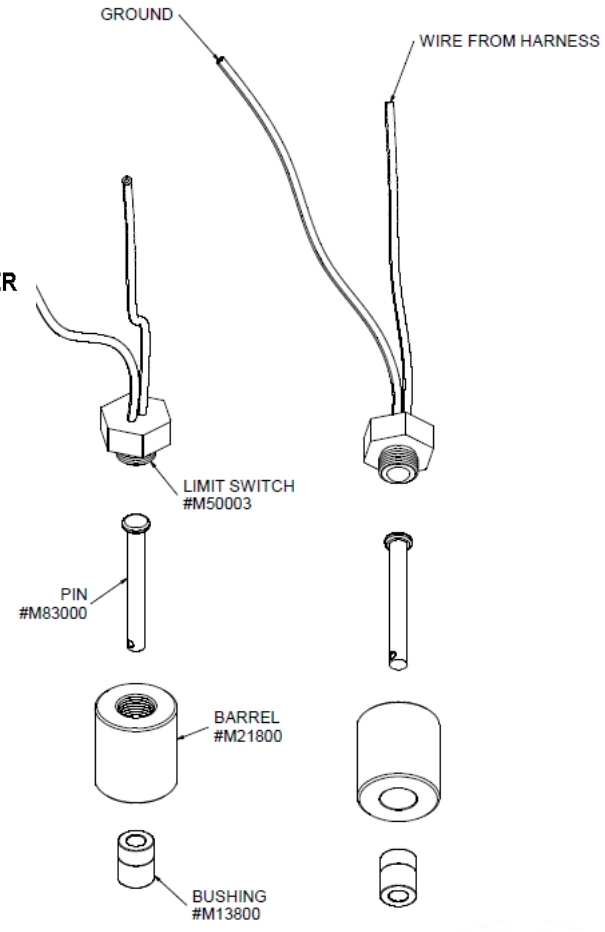
Installing the 14-Pin Wiring Harness <u>Central Pump</u> Automatic Leveling & Platinum Systems

The harness has two ends with plugs; the "panel" end has a 14-pin connector & a 6-pin. This end will need to route to the control panel's location (usually near front of vehicle near driver's seat or in wall of cabinet near service door). The other end will have one 14-pin connector that will plug directly into the tank assembly. The rest of the harness has two wires: Black & Tan, both of these wires plug directly into the Limit Switch that you installed previously onto each jack. Attach the wire harness to the frame rail (usually inside of rail with other wiring) with p-clips or zip ties safely routing away from any moving suspension parts or exhaust (complying with RVIA regulations). Example diagram on next page…

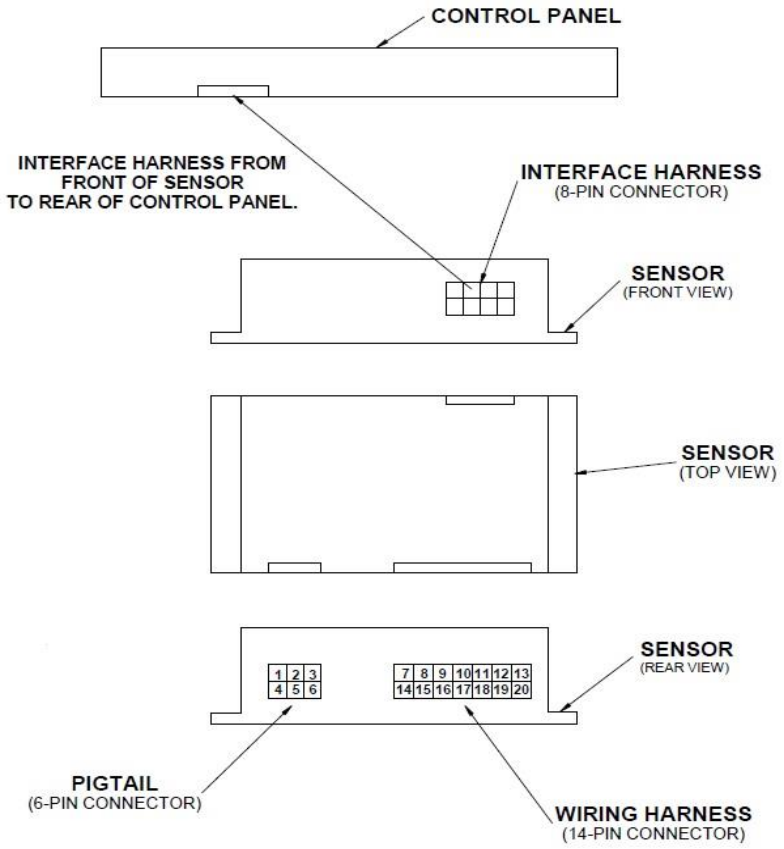
Installing the Limit Switches to the Jacks

Central Pump systems, both wires from limit switch plug into harness with male and female spade connectors.





Limit Switch & Pin Replacement:
Ford Transit 350 part #M50103FLAT
Ford E-350/E-450 part #M50103



Installing the <u>Automatic Leveling</u> Sensor & Control Panel: Fasten the sensor to a secure structure: Typical location would be inside the cabinet near the entry door. It must be inside the vehicle or dry storage area (not weatherproof controls). Ensure that it is mounted level and the arrow on top of the sensor is facing the correct way. Included in most kits is a sensor mounting bracket, attach the sensor with the included #8-32 bolts & nuts. The bracket allows you to mount the sensor off the floor and to vertical surfaces as well, see Fig.33 inside the cabinet (removed drawer for easy access). Plug the 14-pin & 6-pin from the harnesses into the back side. The 6-pin connector only has needs the yellow wire to be hooked up for central pump systems. The yellow wire needs to tie into an ignition or accessory hot wire from the vehicle, see next pages for details. For quad pump systems, the red wire goes to fused 12V and black wire to ground. After doing so attach the interface harness (8-pin connector) to the front of the sensor and attach to the Control Panel. The panel is typically mounted near the side entry door, on a cabinet wall or panel somewhere inside the coach, or inside Quadra's optional plastic box assembly with the harness loosely coiled behind the driver's seat.

Installing the <u>Platinum Control Panel</u>

Plug the 14-pin & 6-pin from the harness into the back side. There is a yellow wire coming from the 6-pin that needs to tie into an ignition hot wire from the vehicle. The panel may be mounted on the dash in a safe location or on a panel somewhere on inside the coach, or inside Quadra's plastic box assembly with the harness loosely coiled underneath the driver's seat.

Battery Cable Installation for <u>Central Pump</u> & <u>2pt</u> Systems

Supplied will be a 4 gauge battery cable that needs to be cut into two pieces.

- The 1st to run from the Solenoid power stud (marked BATT+) to the 80 amp breaker AUX stud.
- The 2nd to run from the BAT stud on the breaker to the Positive Terminal on the coach's house battery. Hooking up the power should be the final wiring step so make sure this is done after all the other electrical work is done for safety. The supplied 80 amp breaker should be securely fastened in the battery box. Ground cable (attached to central pump assembly, typically white 10ga. wire should be fastened to vehicle frame or extended to negative terminal on battery.

Ford E-450 chassis wiring… Remove plastic step well at driver seat to expose wiring

Typically: Quadra yellow wire to Ford yellow/orange wire. Quadra red wire to Ford white/red wire.

FORD TRANSIT IGNITION WIRING FOR YELLOW WIRE:

Under the hood on the diesel chassis, locate the fuse box as shown below, find the GREEN wire on the LEFT side closest to the engine. Test this wire first, but this should be an ignition hot source to tie our yellow wire to. The yellow wire may need to be extended, be sure to route wiring away from heat and avoid moving parts. For the gas chassis, you will have to find another source from the fuse box OR check near the RV battery for breakers or electrical boxes or RV switches near entry door, either of these may have a good ignition source to tie into, again test source prior to attaching our yellow wire.

Hydraulic lines are universal lengths and fit the majority of applications, however if they do not fit your exact model you will need to call and order longer lines.

Central Pump Final Extend Hose Installation & Bleeding the System

During installation of the hydraulic lines, air is internally captured in the hose. Due to this, bleeding the air out of the system is necessary for the system to work properly. This process is done at the end of installation and requires two people and can be messy, so as a warning make sure you are wearing eye protection and have rags ready to use. Make sure all hose fittings are tight on the pump side and the retract side of the jacks. Extend hose fittings should still be un-installed.

- With person #1 running the panel, go into Manual Mode, all jacks should be fully retracted.
- Person #2 (armed with a 5/8" OR 9/16" wrench, safety glasses, rag and a one gallon container) needs to access the left rear jack and place the un-attached extend hose into the empty container.
- Now person #1 will extend that left rear jack from the panel (press & hold button).
- Fluid & air will be spilling out of the port, once a solid stream of fluid occurs, person #1 will release the button on the panel, after fluid stops flowing person #2 should install the hose fitting to the jack.
- Repeat these steps with the rest of the jacks.
- After doing so, extend all jacks fully and let stand for 15 minutes.
- Then retract all the jacks and remove the tank cover and check your fluid level to verify the fluid in the reservoir is around 1 ¾" below the top (ATF Dexron III) do not fill to the top!

Finally install the tank cover, check that all hardware is tight, the sensor is facing the correct way and is mounted level and the house battery is fully charged.

In some instances, the front jacks may need to be dis-mounted from underneath the cab to access the top extend ports during the bleeding procedure.

Troubleshooting - *Hydraulic Cylinder/Plumbing Related*

What fluid do we use in the system? Automatic Transmission Fluid Dexron III ATF

Cylinders running "choppy"… Bleed the system, if central pump system, try quad pump method first.

Cylinders make loud "squeaking" noise while operating… Spray rams with Teflon spray (dry lubricant).

Hydraulic fluid on footpad or on ground around cylinder… Loose fitting or broken hydraulic line.

Cylinders "creep" down or don't hold pressure when lifting/holding coach…

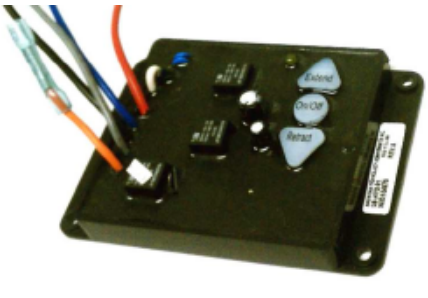
- Check fluid level, Check for leaks in hydraulic lines/fittings
- Possibly plumbed backwards… (Bottom port on cylinder tube connects to right port on pump, etc.)
- Relief Valves have failed on pump motor… replace motor/tank assembly
- Hydraulic seal failure, check for oil around bottom of cylinder or welds… replace cylinder

Panel is on, but pump(s) are not working OR solenoids clicking but pump/motor is not running… Auxiliary Ground Cable

Sometimes required for heavily coated frames, solenoids need a 10 gauge wire to be attached to one mounting stud for both solenoids on each pump assembly (central or quad) that isn't working properly to the vehicle's frame for optimum performance.

2pt Stabilizing System: Wireless or Rocker Switch Controls

Wireless Controls



Components may vary slightly from picture.

Receiver shown on Left,
Transmitter shown on Right.

Replacement Transmitter #M37098
Replacement Transmitter/Receiver #M37029

Operation:

Depress the on/off button on the transmitter to activate. The blue LED light on the top right corner should turn on. The transmitter should be in the off position when the unit is not in use, but is equipped with a safety feature that shuts off if not being used after 3 minutes.

On the transmitter, press & hold the Extend button to lift your unit to desired height. To lower the unit or fully retract the jack(s) press & hold the Retract button.

The controls on the receiver operate the same as the transmitter.

Sync Transmitter:

This is usually done by the original installer, but if you have an issue or have a new transmitter follow these simple steps…

Make sure the receiver and the transmitter are off. Enter the "learn mode" by pressing & holding the on/off button on the receiver until the LED light starts to **flash quickly** on the receiver then release.

Now press & hold the on/off button on the transmitter until the LED on the receiver becomes **constant**, then release. Transmitter now "learned".

Re-Program Receiver:

If you are having issues with your controller at all try this before calling for service…

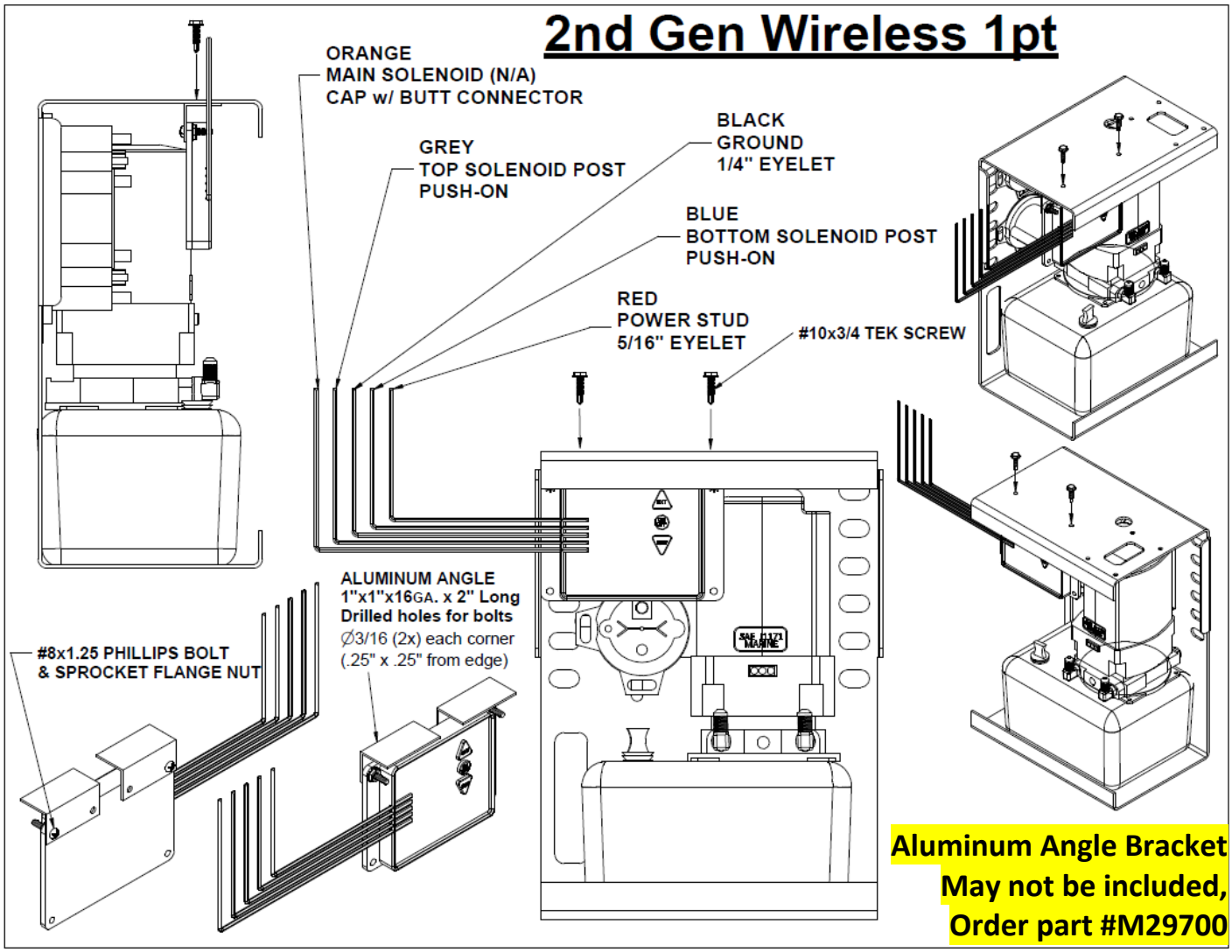
With the transmitter and the receiver off, press & hold the on/off button on the receiver, the LED light will start to flash quickly on the receiver but continue to hold until the light starts to **flash slower**, then release. The receiver module is now cleared of all codes.

Now press & hold the on/off button on the transmitter until the LED on the receiver becomes **constant**, then release. Transmitter now again "learned".

To exit this mode press and release the on/off button on the receiver, the light will become constant. Your controller is now re-programmed and cleared of all error codes.

The Wireless control is wired to the tank assembly and wires are color coded to mate to the extension harness (#M43800 if included). The receiver is podded and can be mounted outside the vehicle, but should be placed where it is easily reached in case if the transmitter is damaged or misplaced, typical placement is inside a storage box wall or inside the tank assembly itself.

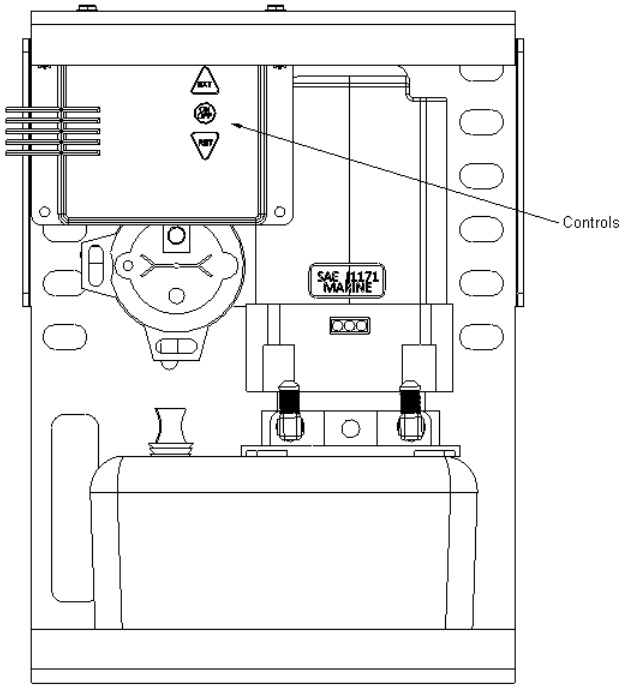
2nd Gen Wireless 1pt



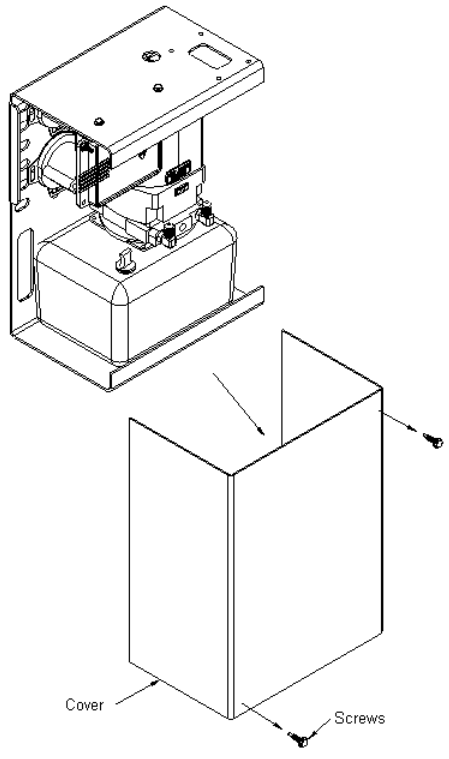
Aluminum Angle Bracket May not be included, Order part #M29700

Operating your Jack with the Emergency Controls:

1.) Remove cover screws (two)
2.) Remove the cover
3.) Press ON/OFF switch
4.) Press EXTEND or RETRACT

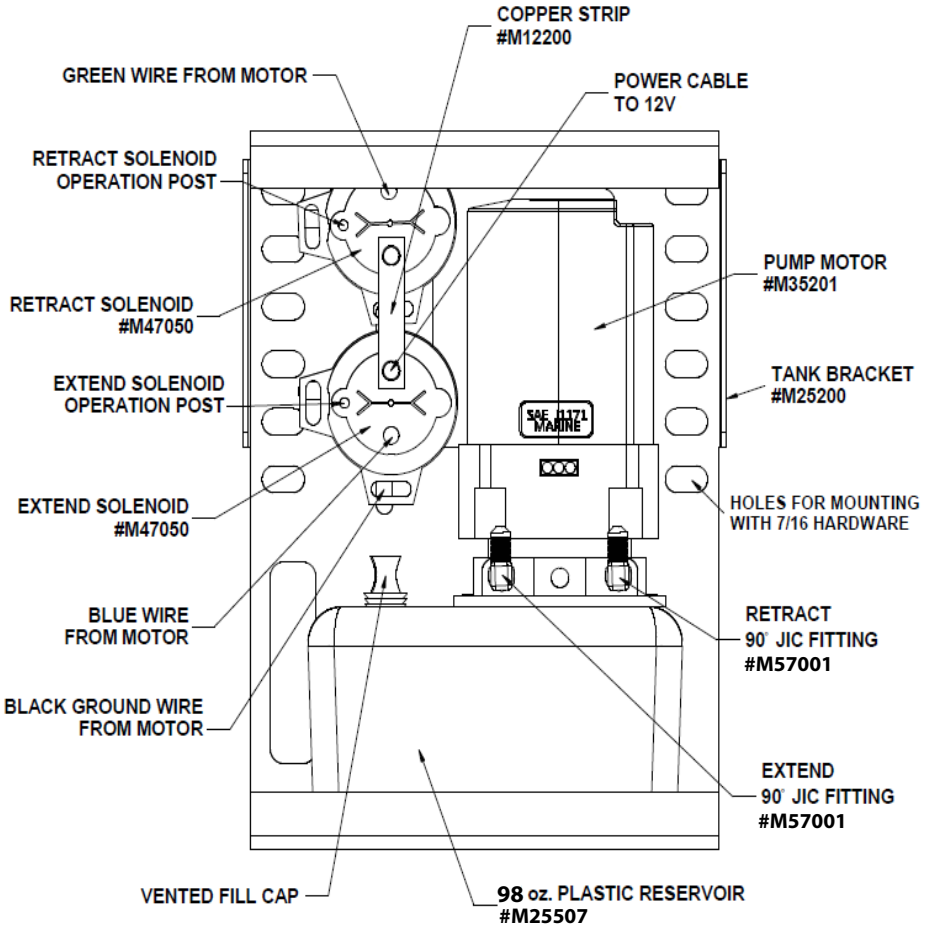


Primary Control for the Jack is your Key Fob, but if that is misplaced, there is still a way out!



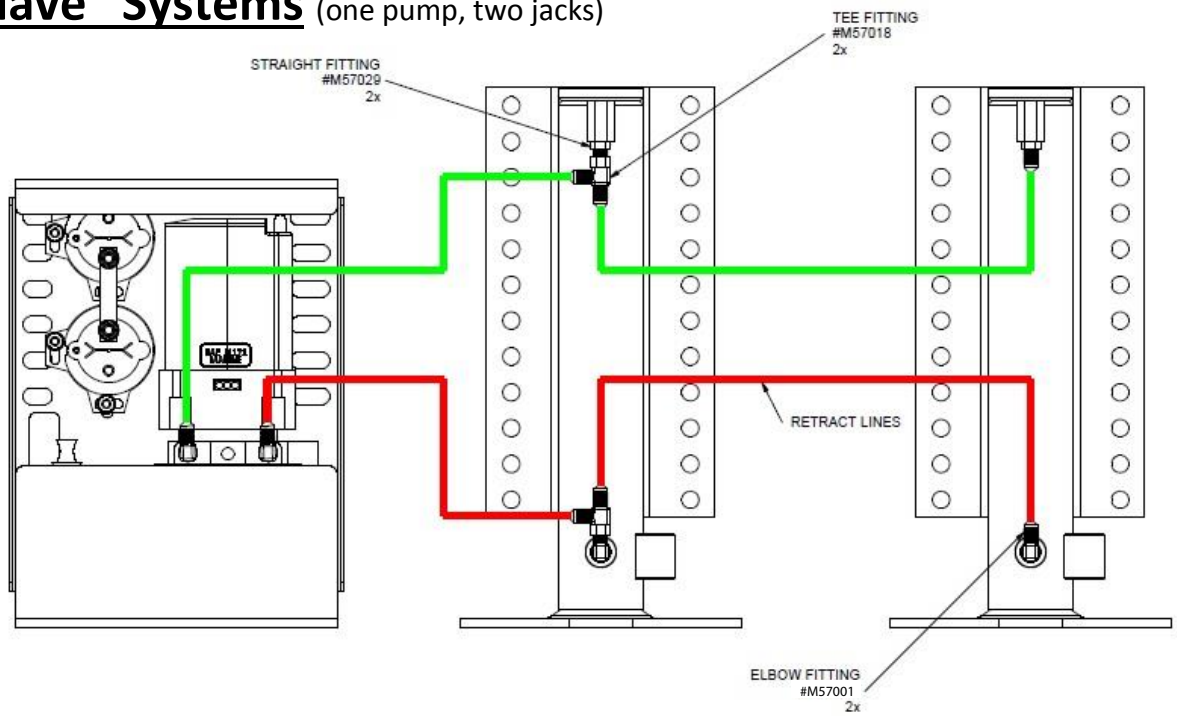
Rocker Switch Controls

Included is a harness *(#M43800)* that routes from the tank assembly to the rocker control switch. The red wire is the 12V power, this goes from the power stud on the tank assembly (on copper strip with 5/16” studs from solenoids) to the center post on the switch. The black wire is ground & is not needed for this switch. The grey wire goes from the retract operation post on the retract solenoid to the post labeled “1” on the switch. The blue wire goes from the extend post on the extend solenoid to the post labeled “3” on the switch. The switch is not waterproof & must be installed inside the coach.



Typical Plumbing

For 2pt “Slave” Systems (one pump, two jacks)

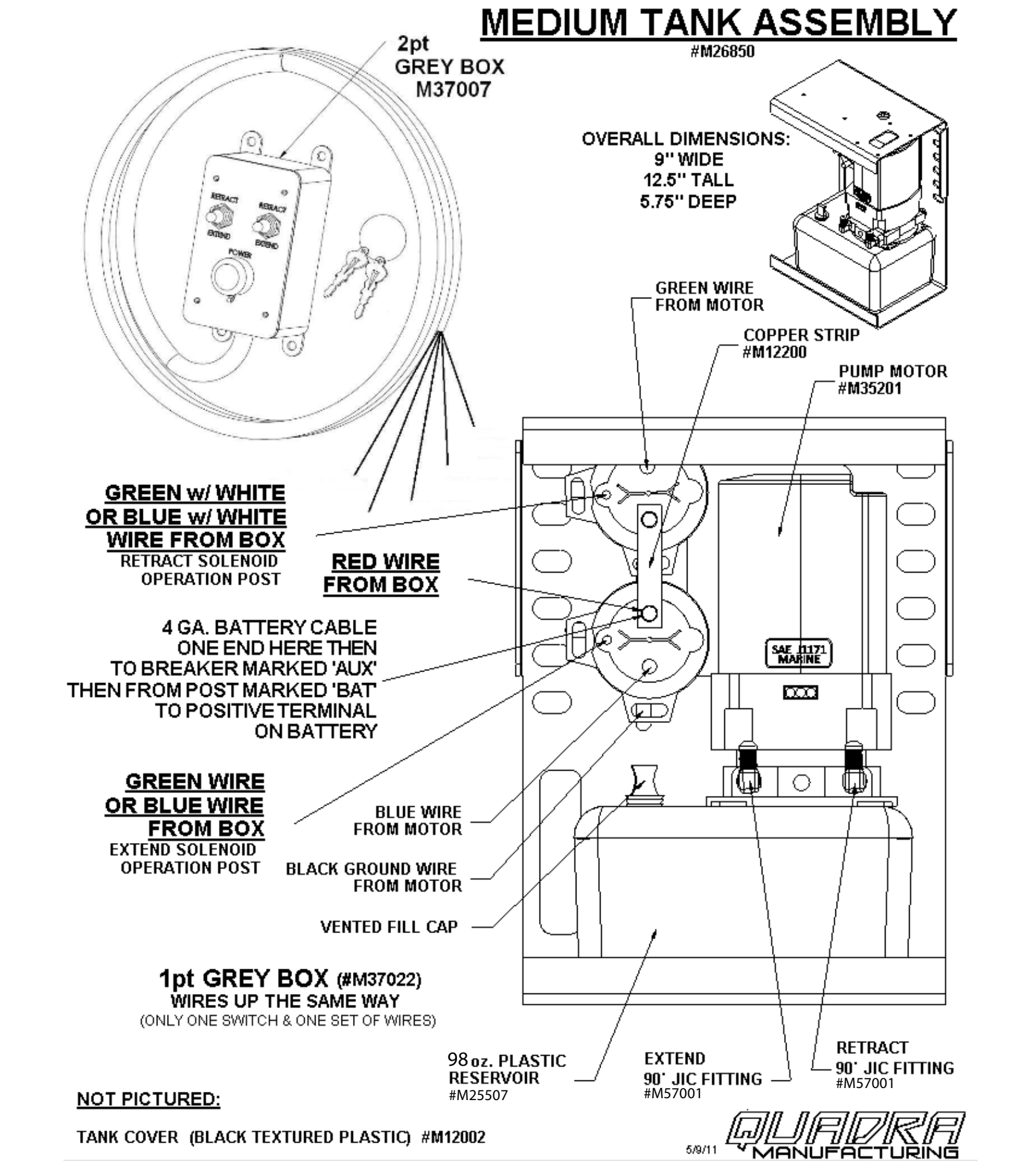


VERSION #1: (SHOWN) THE "TEE" FITTINGS MOUNTED TO THE DRIVE JACK.

VERSION #2: INCLUDES MOUNTING THE "TEE" FITTINGS TO THE PUMP FITTINGS.

VERSION #3: RUNNING TWO LINES FROM THE PUMP AND PLACING THE "TEE" FITTINGS IN-LINE, THEN RUNNING INDIVIDUAL LINES TO EACH JACK FROM THE "TEE" FITTINGS.

2pt Dual Control…



Warranty Guide

Owner must activate warranty! Via Phone or Website

Platinum Central Pump System: Lifetime Cylinders, 2 years parts, 1 year labor.
Automatic Leveling System: Lifetime Cylinders, 2 years parts, 1 year labor.
Manual Leveling Quad Pump System: Lifetime Cylinders, 2 years parts, 1 year labor.
1pt & 2pt Round Leg Stabilizing Systems: 1 year parts and labor.

Should the product be defective due to workmanship and/or material flaws, we will repair/replace the defective material. **Core charges may be applied and refunded on certain components.**

Quadra is NOT responsible for:

- **Freight on warranty parts.**
- **Replacing footpads, bolts, or fluids lost as a result of failure to maintain the system (Loose footpads should be tightened at owner's expense).**
- **Damages caused by abuse, misuse, negligence, misapplication, error of operation, accidental or purposeful damage or faulty installation, including but not limited to hoses, fittings & wiring components.**
- **Liability for loss to the vehicle, or apparatus or property, loss of time, manufacturing costs, labor, material, loss of profits, consequential damages (direct or indirect).**
- **For transportation to and from a service center, onsite service calls to or from the customer, damage from road hazard, loss of salaries, commissions, lodging, towing charges, bus fares, car rentals, fuel expense, telephone charges, inconvenience compensation while repairing or replacing a defective part or material.**

This warranty voids all previous issues. Effective date: 1/1/2022

OWNERSHIP MUST BE REGISTERED WITHIN 30 DAYS FROM THE DATE OF PURCHASE TO ACTIVATE WARRANTY. Do it online at BIGFOOTLEVELER.com!

Prior to any work being done an **authorization number must be obtained** by calling 269-483-9633 for Warranty Parts or Service Labor. For full warranty transcript just contact us!

Service labor based on a flat rate schedule determined by Quadra for **authorized** work performed will be reimbursed. This will eliminate much diagnostic time and avoid **refusal of unauthorized claims.** Many problems may be resolved by contacting a Quadra service representative.

Provide the system serial number here _____.

Emergency Service

For afterhours emergency service please call our normal office number **269-483-9633** and follow the instructions.