Grease Jockey® Installation and Operation Guide

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GREASE JOCKEY SYSTEM DESCRIPTION

The Grease Jockey® system is controlled by a timer, which activates either an air solenoid valve or an electric motor to drive a pump. The pump supplies grease into the main supply line for delivery to localized distribution modules.

These modules are made up of manifolds with metering valves and distribution lines for each lube point in that localized area. The meters are designed to dispense a precise amount of grease at each lube cycle. Meter size is chosen by a ratio of the smallest to largest lube point requirements in the system.

The pump must pressurize the system, then vent it to allow the metering valves to reset for the next cycle. A fluid grease is required to achieve proper flow and lubrication characteristics.

SYSTEM COMPONENTS

TIMER

The timer (Ref. Fig. 1) on an air operated pump system is a compact solid state device housed in a high impact resistant plastic enclosure. It has seven lube cycle interval settings from 1/2 to 6 hours, plus a test position and a manual run button.

The timer operates the system only while the vehicle's ignition is turned on. A memory function keeps track of elapsed-cycle-time even if the ignition switch is turned off. When the predetermined cycle time has elapsed, the timer signals the pump to initiate a lubrication cycle. If the vehicle's ignition is turned off before the interval is complete, the timer's memory "holds" the time count until the vehicle is restarted.

When the cycle-time dial is switched from one range to another, the manual run button should be pressed to initiate the new cycle time setting (otherwise, the new time is added to any time that remains from the previous lube cycle).

When rapid repetitive cycles are needed, turn ignition key to "ON", set the cycle-time dial to the "test" position, and press the manual run button. In this mode the timer signals the pump to cycle approximately once every minute. (45 seconds on and 15 seconds off). This rapid cycling continues as long as the timer remains in the "test" position. Always reset the timer dial to it's proper setting.

SOLENOID

The air valve (Ref. Fig. 3) used with the air operated pump threads into the port on the bottom of the pump. It is a 3-way, normally closed, free venting valve available with either a 12 or 24 VDC 9 watt continuous duty rated coil. The coil is molded and potted with a 6" lead of 16 AWG wire and a weather tight (male) connector. The air valve has a 1/8" NPT inlet port and a 1/4" NPT male thread outlet port. The maximum operating pressure is 150 psi. The barbed connector is the exhaust port and should not be blocked. There is a manual test button located on the end above the electrical lead. A 22' wire harness with a weather tight (female) connector to mate with the solenoid is available (included with kits).

FIGURE 2 RECOMMENDED TIMER SETTING

Timer Setting	Driving Conditions
0.5 or 1 hour	Off Highway
1.5 or 2 hours	Start + stop city, heavy salt, snow and ice, rough pavement, wet climate, heavy loads, dusty roads
3 hours	Normal city or highway driving, normal climate, moderate loads

These are recommended settings only. Experience with individual applications will determine timer settings.

Figure 1

Figure 3

AIR OPERATED PUMP

The air pump is designed to dispense a maximum of 1.5 cubic inches of grease. The air pressure to the pump must be a minimum of 100 psi and a maximum of 150 psi for the meters to function correctly. The pump is a 9 to 1 ratio pump to provide a grease pressure output of between 900 and 1350 psi.

The air pump (Ref. Fig. 4) operates when the 3-way air solenoid valve is actuated by the timer and air pressure is applied to the air chamber port (1) and diaphragm (2). This forces the spring-loaded pump piston (3) upward compressing the grease in chamber (4). This pressure seats the flapper valve (5) against the reservoir opening (6) and grease flows toward port (9).

Simultaneously, pressure is applied behind the spring-loaded check valve poppet (8) through port (9) sealing off passage way (7). Grease flows into the main lines through outlet (11).

After completion of an on-time cycle, the 3-way air valve exhausts the air in the pump. The pump piston spring forces the pump piston (3) down allowing the flapper valve (5) to unseat from the reservoir opening (6). Grease from the reservoir is drawn into chamber (4) just vacated by the pump piston (3). System pressure is relieved through port (9) to port (7) back to the reservoir as check valve (8) is returned by spring (10).

MODULES

A module is (Ref. Fig. 5) an assembly that distributes the grease from the main line to a group of lube points. It is made up of a manifold, mounting stem, meters (metering valves), 3/16" OD tubing, and fittings. One manifold can hold as many as 12 meters. Plugs are available to close off any manifold port that is not required. The manifold mounts with the ported stud through a 5/8" hole. Main lines may be connected at either end of the manifold or at the end of the mounting stud.

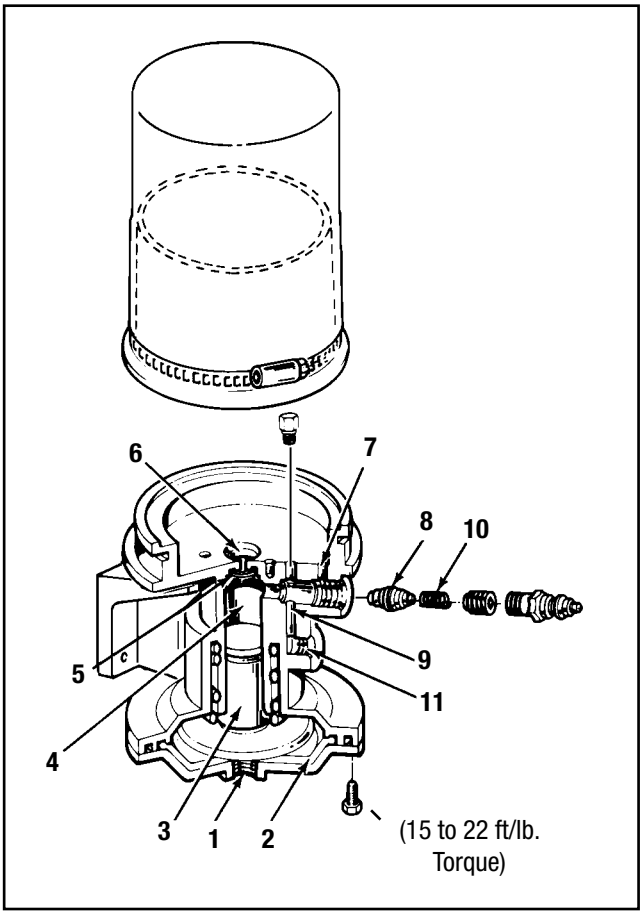


Figure 4

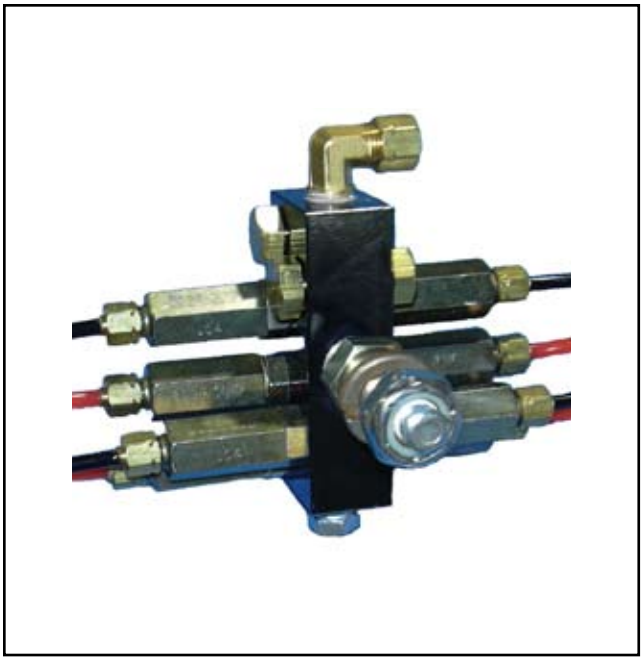


Figure 5

METERS

Meters (Ref. Fig. 6) are positive displacement, spring-reloaded, dispensing devices designed for use in Grease Jockey systems operating at 900 to 1200 psi. These meters are available in 6 sizes (based on output volume) to meet various lube requirements. These 6 sizes provide adequate choices to supply every lube point on a truck chassis, including the fifth wheel. (See Fig. 7)

Request document GJ-00003 for additional meter information. Request document GJ-00006 for instruction on changing meter volume.

TUBING

Only Grease Jockey heavy wall nylon tubing should be used in the system. Use 3/16" OD lines for lube point distribution and 5/16" OD for main lines with brass fittings. (Tube inserts are required on ALL 5/16" line connections). Other adapters, fittings, connectors, and mounting hardware are available from your Grease Jockey distributor.

CAUTION: DO NOT substitute air brake tubing for lube lines. The pressure rating is NOT adequate for Grease Jockey lubrication system use.

GREASE

A fluid lithium grease of NLGI grade "0" or "00" with an "EP" additive is standard for this type system. A 35lb pail of "00" grease, 550-400-020, is available from your Grease Jockey distributor. Grease should not contain suspended lubricating agents such as graphite or moly disulfide.

Request document GJ-00003 for additional grease information.

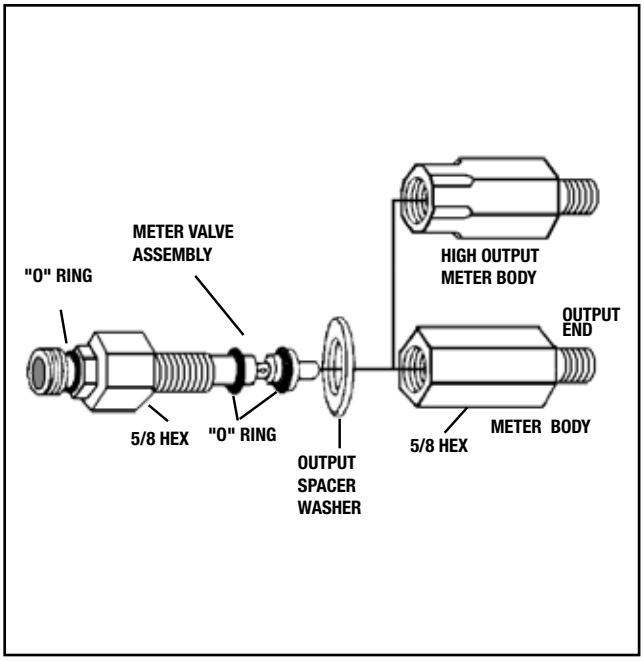


Figure 6

FIGURE 7 METER CHARACTERISTICS

Size	No. Washers in Meter Body	Turned Hex	Output cu.in.
0	0	No	0.002
1	1	No	0.005
2	2	No	0.009
3	3	No	0.012
4	4	No	0.020
8	4	Yes	0.026

ELECTRIC MOTOR DRIVEN PUMP

The motor (1) is energized. The gear pump (2) begins to turn, causing grease to flow into chamber (3). As pressure builds, the shuttle valve assembly (4) moves outward, sealing the fill tube opening (5). As pressure continues to build, the spring-loaded ball check (6) inside the shuttle valve moves outward. The grease flows through the shuttle valve and out passage (7) into the main line through outlet (8).

After completion of the on-time cycle, the motor shuts off. The gear pump stops turning and pressure inside the shuttle valve is released. The shuttle valve is forced back inward by the spring (9). System pressure is vented through the fill tube and port (10) back to reservoir.

The timer is mounted under the pump motor cover. It is a potted "ice cube" style device with settings for lube cycle intervals from 6 to 480 minutes and settings for cycle on-time intervals of 10 to 1,000 seconds. A manual run button is located on the outside of the pump housing.

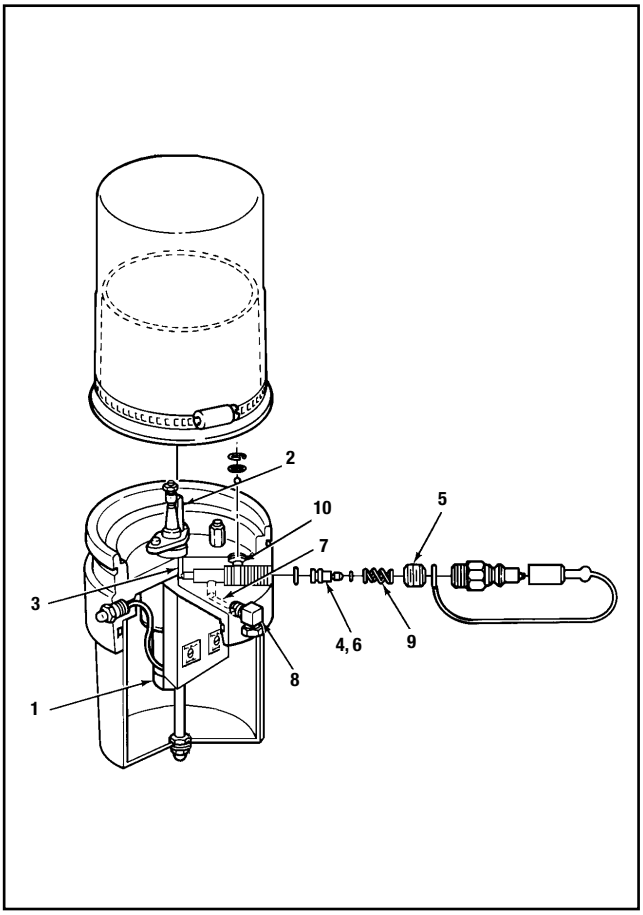


Figure 8

The lube cycle clock (settings in minutes) runs continuously regardless of the status of the vehicle. Only when the vehicle switch is in the "ON" position will a lubrication cycle be initiated.

The cycle on-time determines the motor run time (settings in seconds). Typically this setting is short in length (approx. 40 sec.). Longer run times would only be needed for systems with large numbers of lube points and long lengths of main line.

There is a pressure relief built inside the pump to guard against dead head flow situations.

ELECTRIC PUMP WIRING

The timer for an electric pump is an integral part of the pump assembly. (Ref. Fig. 9)

a. Connect the RED lead to the positive side of the vehicle ignition switch. Install a fuse at this connection. 10 Amp for a 12 VDC system, 5 Amp for a 24 VDC system

b. Connect the WHITE lead to the battery positive terminal circuit. Install a 5 Amp fuse at this connection.

c. Connect the BLACK lead to an environmentally protected battery negative terminal.

d. The GREEN lead is not used and may be clipped or grounded.

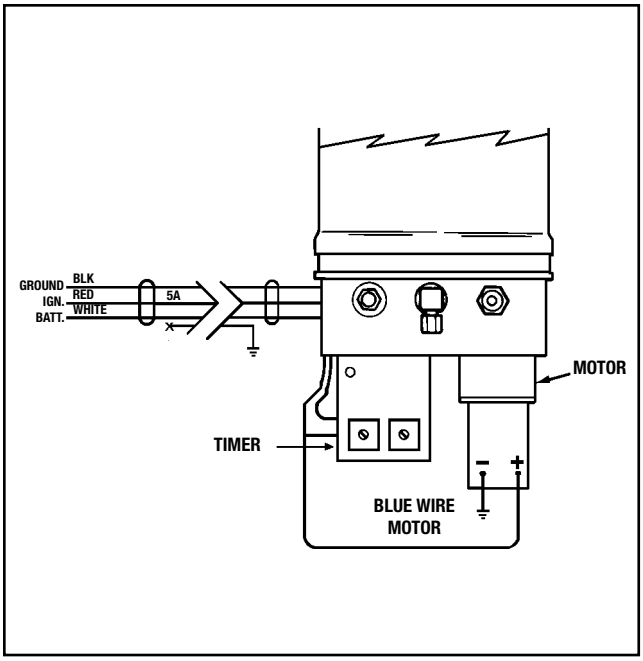
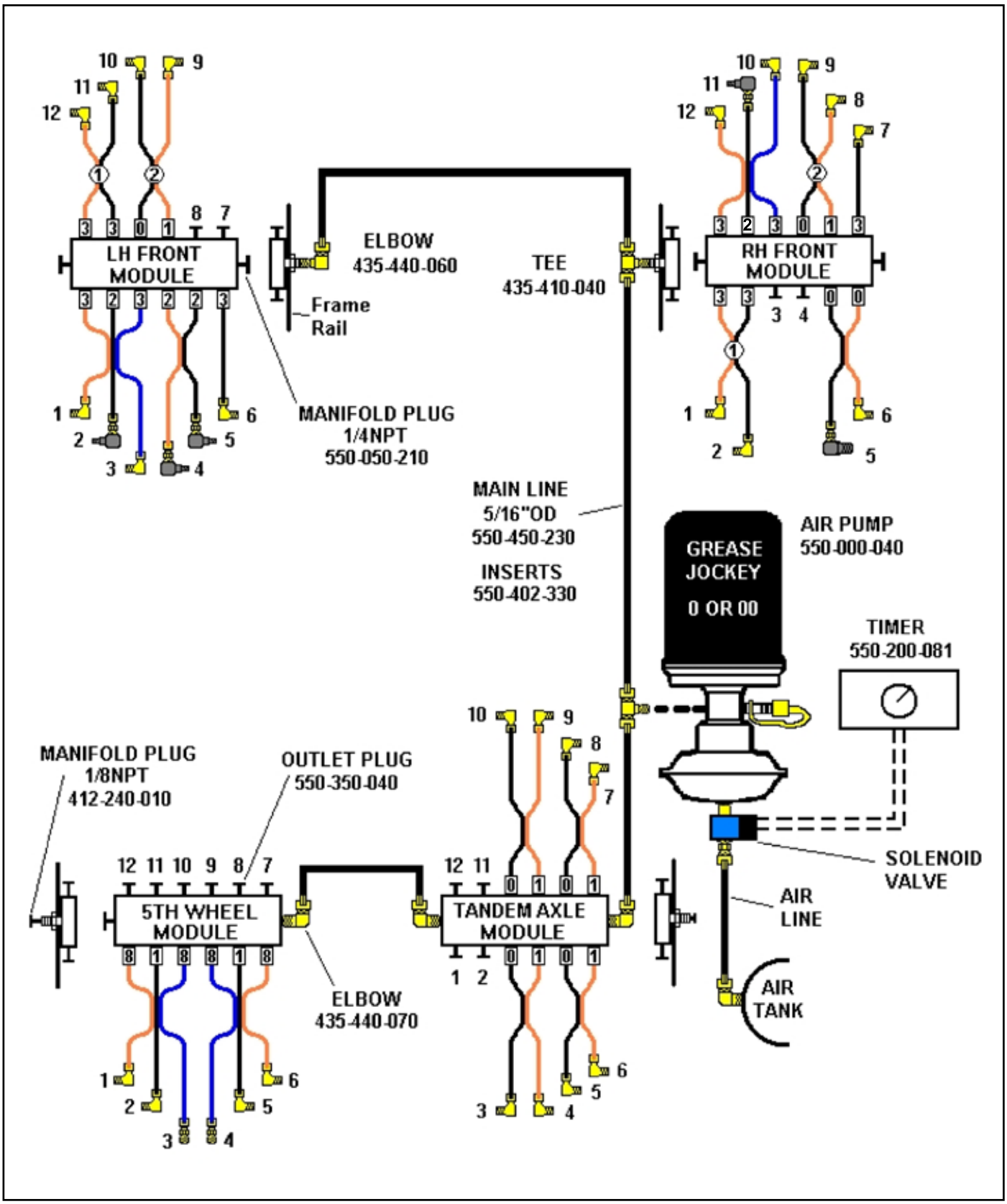


Figure 9

Typical Layout for Tandem Axle Tractor with 5th Wheel



KIT 563802 (550-500-155) STANDARD TANDEM AXLE TRACTOR KIT

Point No.	Description	Meter Size	Tube Color	Bundle & Marking	Recommended Fittings					
					Part No.	Old Part No.	Item	Part No.	Old Part No.	Item
LEFT HAND FRONT MODULE - 563644 (550-304-390)										
1	King Pin Upper	3	Orange	3-Tube Unmarked	556638	435-440-030	Elbow			
2	Tie Rod	2	Black		15K740	550-400-800	Elbow	556644	435-460-030	Connector
3	King Pin Lower	3	Blue		556638	435-440-030	Elbow			
4	Drag Link	2	Orange	2-Tube Unmarked	15K740	550-400-800	Elbow	556644	435-460-030	Connector
5	Drag Line	2	Black		15K740	550-400-800	Elbow	556644	435-460-030	Connector
6	Spring Pin	3	Black	Unmarked	556638	435-440-030	Elbow			
7	Plug									
8	Plug									
9	Slack Adjuster	1	Orange	2-Tube #2	556638	435-440-030	Elbow			
10	"S" Cam	0	Black		556638	435-440-030	Elbow			
11	Spring Hanger	3	Black	2-Tube #1	556638	435-440-030	Elbow			
12	Spring Hanger	3	Orange		556638	435-440-030	Elbow			
RIGHT HAND FRONT MODULE - 563645 (550-304-400)										
1	Spring Hanger	3	Orange	2-Tube #1	556638	435-440-030	Elbow			
2	Spring Hanger	3	Black		556638	435-440-030	Elbow			
3	Plug									
4	Plug									
5	Clutch C/Shaft LH	0	Black	2-Tube Unmarked	15K783	509-110-000	Street Elbow	556644	435-460-030	Connector
6	Clutch C/Shaft RH	0	Orange		556638	435-440-030	Elbow			
7	Spring Pin	3	Black	Unmarked	556638	435-440-030	Elbow			
8	Slack Adjuster	1	Orange	2-Tube #2	556638	435-440-030	Elbow			
9	"S" Cam	0	Black		556638	435-440-030	Elbow			
10	King Pin Lower	3	Blue	3-Tube Unmarked	556638	435-440-030	Elbow			
11	Tie Rod	2	Black		15K740	550-400-800	Elbow	556644	435-460-030	Connector
12	King Pin Upper	3	Orange		556638	435-440-030	Elbow			
TANDEM AXLE MODULE - 563646 (550-304-410)										
1	Plug									
2	Plug									
3	"S" Cam	0	Black	2-Tube Unmarked	556638	435-440-030	Elbow			
4	Slack Adjuster	1	Orange		556638	435-440-030	Elbow			
5	"S" Cam	0	Black	2-Tube Unmarked	556638	435-440-030	Elbow			
6	Slack Adjuster	1	Orange		556638	435-440-030	Elbow			
7	Slack Adjuster	1	Orange	2-Tube Unmarked	556638	435-440-030	Elbow			
8	"S" Cam	0	Black		556638	435-440-030	Elbow			
9	Slack Adjuster	1	Orange	2-Tube Unmarked	556638	435-440-030	Elbow			
10	"S" Cam	0	Black		556638	435-440-030	Elbow			
11	Plug									
12	Plug									
FIFTH WHEEL MODULE - 563648 (550-304-430)										
1	Fifth Wheel Plate	8	Orange	3-Tube Unmarked	556638	435-440-030	Elbow			
2	Fifth Wheel Pivot	1	Black		556638	435-440-030	Elbow			
3	Fifth Wheel Plate	8	Blue					556644	435-460-030	Connector
4	Fifth Wheel Plate	8	Blue	3-Tube Unmarked				556644	435-460-030	Connector
5	Fifth Wheel Pivot	1	Black		556638	435-440-030	Elbow			
6	Fifth Wheel Plate	8	Orange		556638	435-440-030	Elbow			
7	Plug									
8	Plug									
9	Plug									
10	Plug									
11	Plug									
12	Plug									

INSTALLATION STEPS

All lube points should be properly filled with grease before removal of zerk fittings to change to tube connector fittings. This ensures each lube point will readily accept grease.

Step 1- PUMP

Pump mounting is the same for either an air or electric pump. Select a location that is visible, accessible for filling the reservoir, and protected. The mounting holes and dimensions are the same on both styles of pump. (See Fig. 10) A bracket is available to assist in mounting the pump. The pump inlet is gravity fed; therefore the pump must set vertically. (See Fig. 11)

Use all four bolts in mounting.

Note: When using an electric pump omit step 2 and 3. For step 4 refer to page 9.

Step 2 - SOLENOID (Air Operated Pump)

On air driven pumps the solenoid valve threads into the air chamber at the bottom of the pump. (See Fig. 11) Be sure you have the correct voltage (12 or 24 VDC) to match your vehicle's electrical system. Use a thread sealant on all air supply fittings. The air supply line should run from the aux. air tank only. Connect the air supply line to port labeled "1" on the solenoid valve.

Do not connect anything to the barbed fitting. This is the exhaust port.

A 22' harness wire to supply the signal from the timer is available (included in standard kits). This harness comes with a weather tight connector to mate with the solenoid connector. (see Step 3).

IMPORTANT - ALL connections between the timer and solenoid (blue and yellow leads) MUST be moisture-proof and safe from grounding.

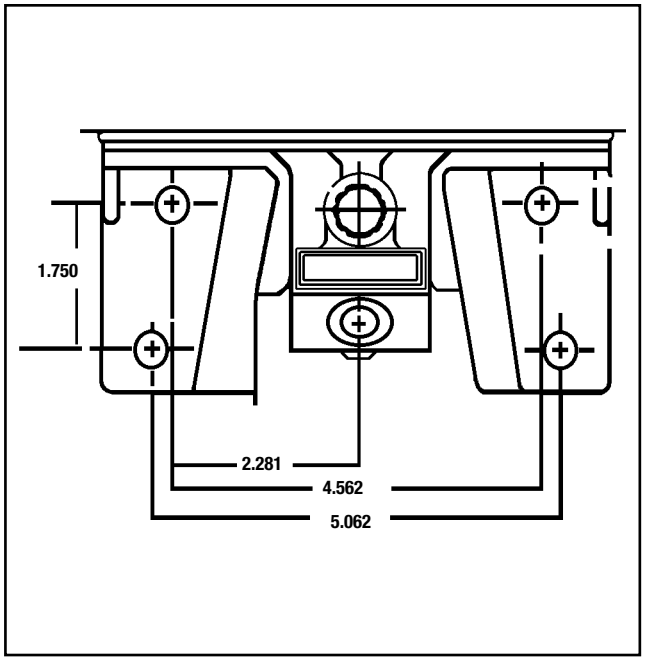


Figure 10

Figure 11

Step 3 - TIMER (Air Operated Pump)

The timer for an air operated system should be mounted in a protected but readily accessible location inside the cab. The timer housing has four 7/32" dia. holes for No. 10 mounting screws. The timer leads are a 5-strand, 18 gauge 8" wire harness with a Packard connector. A wiring harness with a mating connector is available (supplied with kits) which simplifies installation of the timer and provides excellent connection integrity. (See parts list on page 18).

NOTE: Timer must be installed horizontally as shown in figure 12 with cable leads pointing down.

After mounting the timer;

a. Connect the BLUE and YELLOW leads to the wires from the pump mounted solenoid. (See schematic Fig. 12).

IMPORTANT - CAUTION, DO NOT ground the blue and yellow wires to the solenoid. This could cause damage to the timer.

b. Connect the RED lead to the positive side of the vehicle ignition switch. Install a 5 amp fuse at this connection.

c. Connect the ORANGE lead to the battery positive terminal circuit. Install a 5 amp fuse at this connection.

d. Connect the BLACK lead to the chassis ground.

Step 4 - MODULES

Modules

The modules (Ref. Fig 13) are mounted with a ported stud through a 5/8" hole. Mount all modules on the frame rail or a cross member close to the points they will be lubricating. Grease Jockey kits come with module assemblies for each strategic area of the chassis to be lubricated. Refer to the typical system layout on page (6).

The unused ports in the manifolds should have plugs in them. If additional lube points are needed these plugs can be replaced with appropriate sized meters and lines.

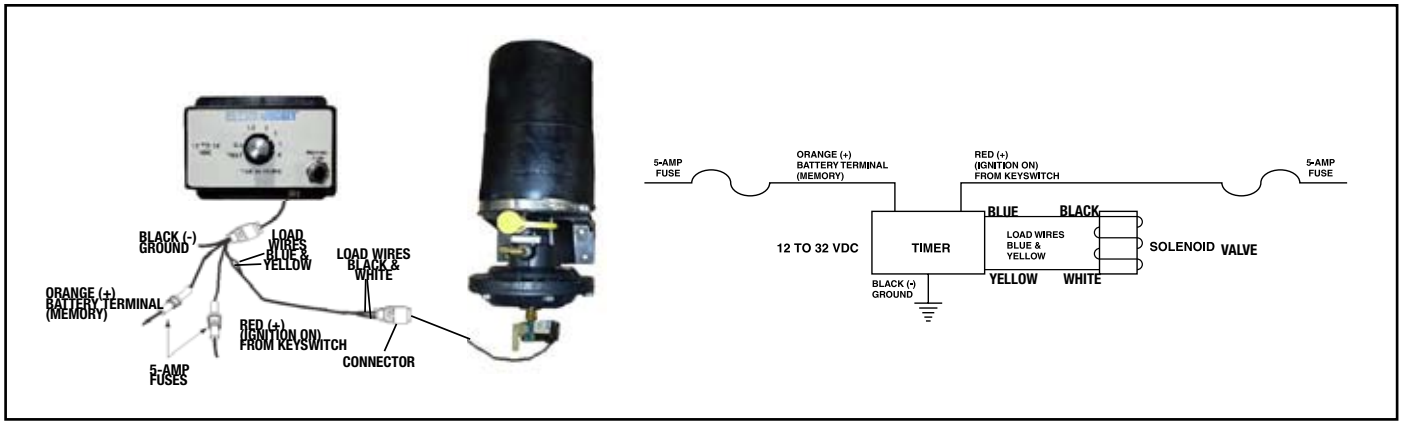


Figure 12 Negative Ground System

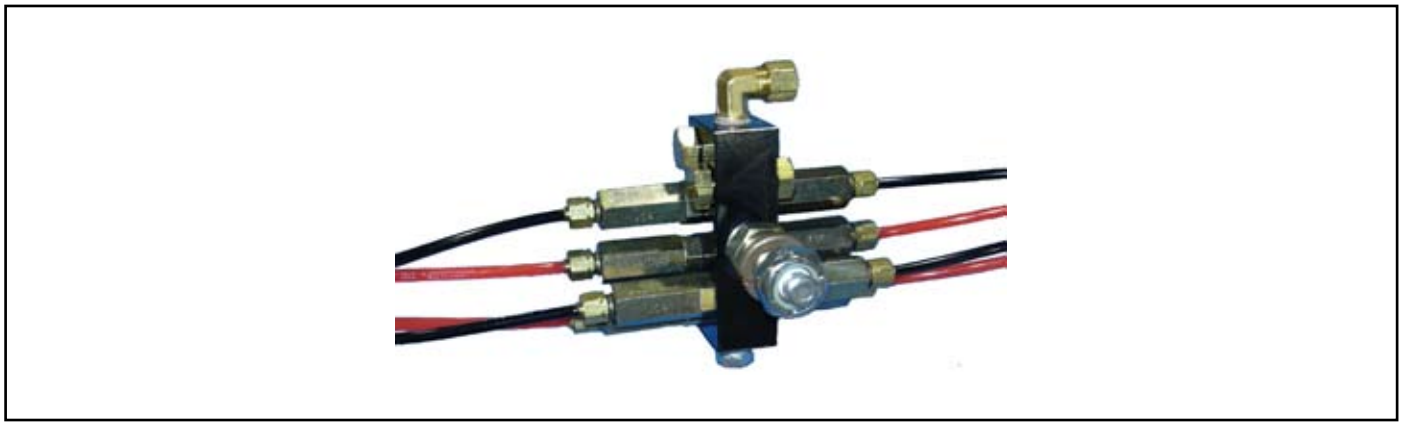
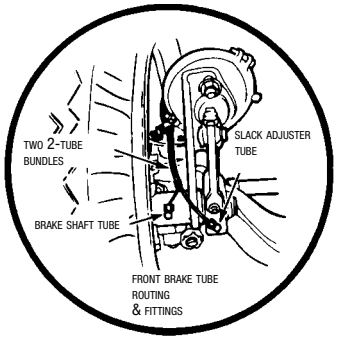


Figure 13

Step 4a - Left Front Module

This assembly contains the meters, hardware, and tubing for 2 king pin, 1 spring pin, 2 spring shackle pin,
1 tie rod, 2 drag link, 1 S-cam, and 1 slack adjuster lube points. Optional points from this module typically are linkage and steering box points.
(Ref. Fig. 14)



Step 4b - Right Front Module

This assembly contains the meters, hardware, and tubing for 2 king pin, 1 spring pin, 2 spring shackle, 1 tie rod, 2 clutch cross shaft, 1 S-cam, and 1 slack adjuster lube points. Optional points from this module typically may be body pivot pins. (Ref. Fig. 15).

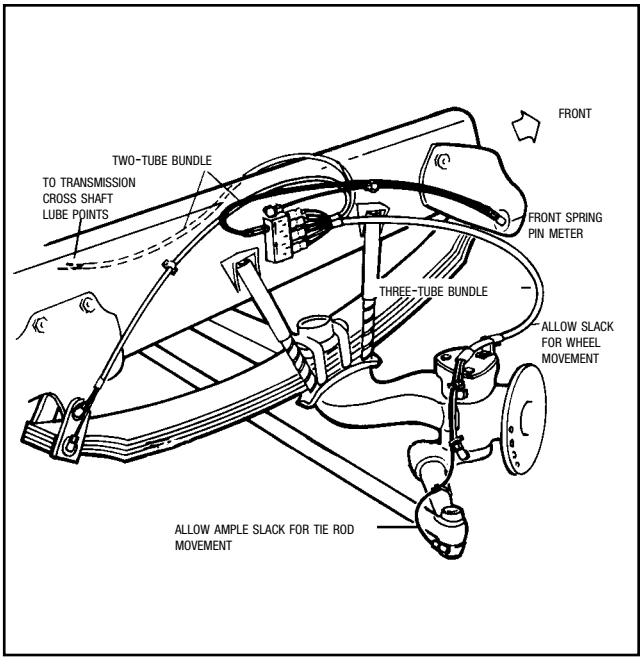


Figure 15 Right Front

Step 4c - Rear Axle(s)

This assembly contains the meters, hardware, and tubing for (2 or 4) S-cam and (2 or 4) slack adjuster lube points. The number of points is determined by the application (single or tandem axle). Optional points for this module may be spring pin points or trailer system meters. (Ref. Fig. 16).

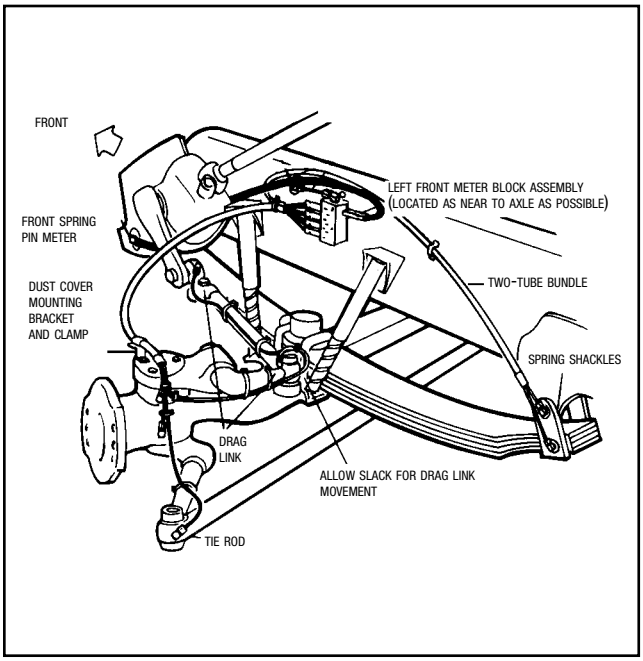


Figure 14 Left Front

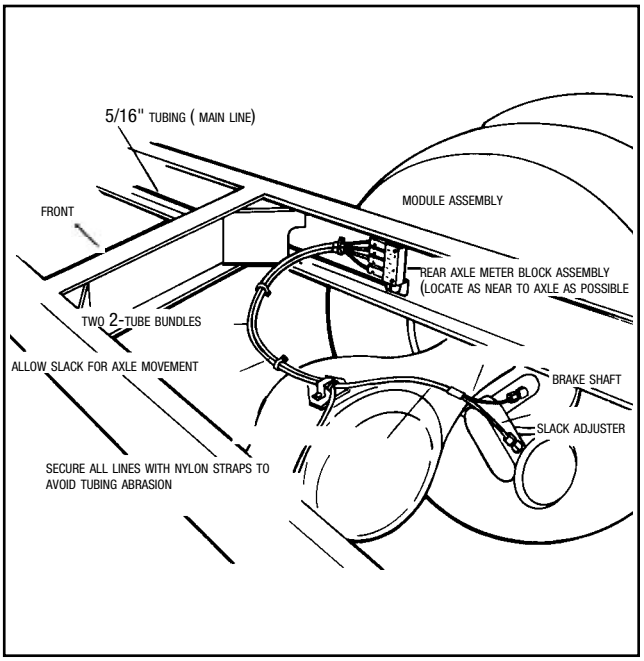


Figure 16 Rear Axle(s)

Step 4d - Fifth Wheel

This assembly contains the meters, hardware, and tubing for 4 face plate and 2 pivot pin lube points
(Ref. Fig. 17).

NOTE: Most 5th wheel plates do not have grease fittings in the plate. This requires four holes to be drilled and tapped (1/8" NPT) through the plate. These meters should be #8.

Step 5 - TUBING

When installing the tubing, AVOID routing any tubing close to a heat source such as an exhaust manifold, muffler, turbocharger, etc.

Route tubes where they can be tied down securely with plastic tie straps or tube clamps and yet flex or move with moving parts.

Always use approved 3/16" and 5/16" OD Graco tubing. Non-approved nylon or air brake tubing should NOT be used. (Ref. page 4).

The 3/16" tubing comes in three configurations. Single tubes are black or orange, 2 tube bundles have a black and an orange tube inside a sheath. A 3 tube bundle has a black, blue and orange tube inside a sheath. The orange tube is connected to the highest output meter. The blue tube is connected to a lesser or equal output meter. The black tube is connected to the lowest or equal output meter of the bundle group.

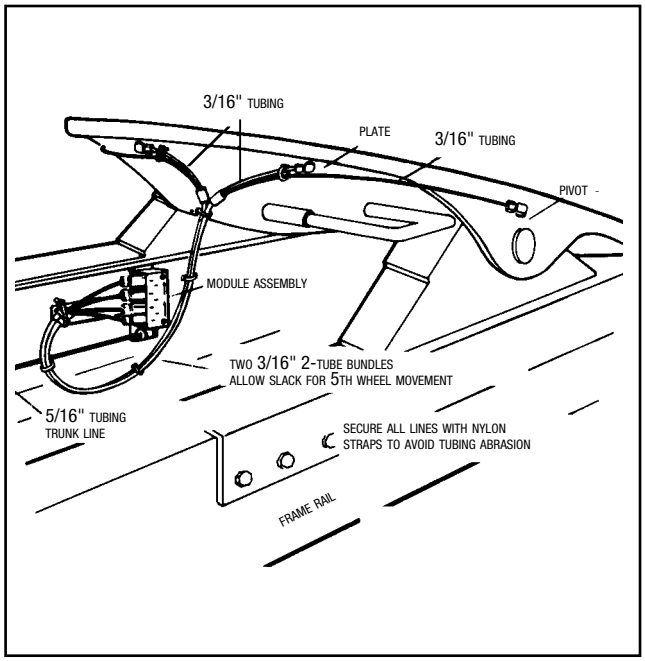


Figure 17 Fifth Wheel

For example, on the front chassis module, either left or right, a 3 tube bundle is connected to two #3 meters and a #2 meter (orange and blue tubes go to the upper and lower king pin lube points and the black tube goes to the tie rod end lube point).

TUBING PREPARATION

1. Measure approximate lengths of tube bundles, leaving extra length for trimming at the lube points.
2. Cut the outside sheath on tube bundles back to the point where this bundle meets it's first lube point. Be careful not to puncture or cut the tubes inside. Use a stripper to help prevent damage to the tubes.
3. Peel back the outside sheath onto itself to create a collar and cut off the excess. Be careful not to sever the remaining sheath or tubes.
4. Align tubing with fitting and make cuts square and clean with an anvil type cutter.

NOTE: Allow ample slack for tube movement and ease of installation.

TUBING

A self aligned ferrule is supplied with all 3/16" and 5/16" fittings. It is not necessary to remove the nut and ferrule to seat the tube into the fitting. Care should be taken to make sure the tube is well seated into each fitting. Brass inserts are supplied with kits for use with the 5/16" tubing. These inserts MUST be used at every 5/16" connection.

The 5/16" tube is the main line tubing routed from the pump to the manifolds. It may also be used as the air supply line to the solenoid. It should be routed inside the frame and secured well for protection.

Step 6 - System Fill + Start Up

Use lubricant part number 550-400-020 or a quality NLGI "0" or "00" lithium base with an "EP" additive grease.

When using a flexible style reservoir be sure the top of the bag is depressed inside the stiffener as far as possible to purge the air from the reservoir. (Ref. Fig 18)

Fill the reservoir through the fill stud until it takes the original shape (top of reservoir slightly domed). (Fig 18) **DO NOT OVER FILL**.

Step 7 - Purging air from the main line:

Note: Check the vehicle air supply. At least 100 PSI gauge pressure is required.

All the air must be removed from the main lines and manifolds. Follow the next 5 steps carefully.

1. All of the 1/4" NPT end port and 1/8" NPT stud plugs on the module manifolds should be removed.
2. With the vehicle ignition switch turned ON. Set timer at the test position and press the manual run button.
3. As the pump cycles , check the open module ports for flow of grease with no air.
4. When the flow of grease from a port is free of air close the port and continue this process until all ports have been checked. Check the open port closest to the pump first proceeding to the port furthermost from the pump last. This will push out the air in the main line(s).

Note: The 3/16" distribution lines are pre-filled. They should not require purging of air.

5. Let the system run in the test position for a few minutes. Check all line connections to be sure they are holding pressure. Check at lube points to be sure lubricant is moving to this point in the system.

At this point the system should be running correctly and you should reset the timer to the desired setting for your application.

Timer settings are dependent upon your application. As a starting point refer to Fig. 2.

If any part of the system has not functioned as it should please refer to the troubleshooting section of this bulletin.

This would be a good time to complete the GREASE JOCKEY IN SERVICE PM procedure and warranty card. (See page 13).

Note: The Grease Jockey PM procedure shown on page 15 is a simplified procedure for regular preventative maintenance intervals.

Mating female quick disconnect available from your Grease Jockey distributor - 557877 (550-050-230)

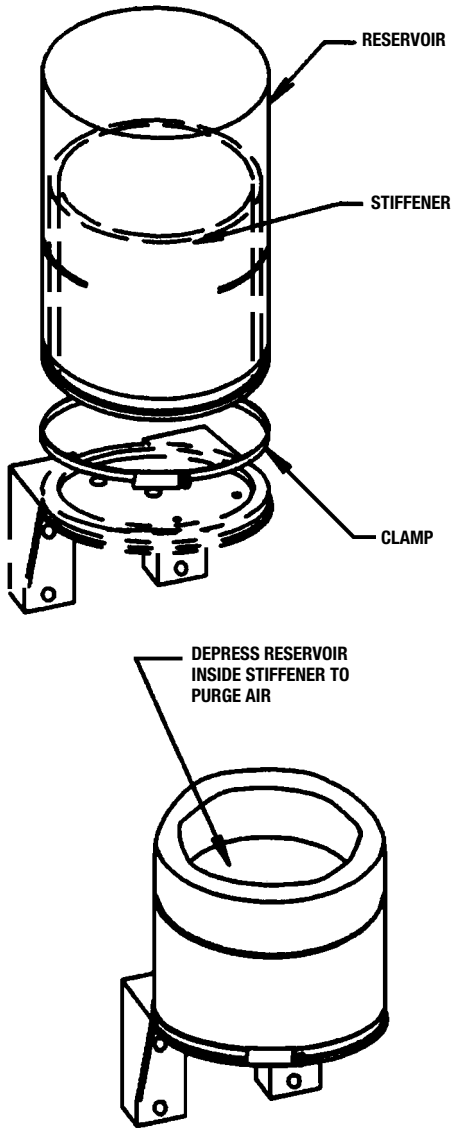


Figure 18

GREASE JOCKEY IN SERVICE PM PROCEDURE & WARRANTY REGISTRATION

PLEASE PRINT

Name: _____ In Service Date: _____

Company: _____ Tel #: _____

Address: _____ State: _____ Zip: _____

Vehicle #: _____ Vehicle Make: _____ Mileage: _____

REFER TO GREASE JOCKEY SCHEMATIC FOR LUBE POINT LOCATION

1. Fill the Grease Jockey reservoir with grease (use fluid grease NLGI 00 Lithium EP). Connect grease filler pump quick disconnect to the mating quick disconnect at the base of the Grease Jockey lube system pump.

   CAUTION: Do not over fill the reservoir. Full reservoir: YES_____ NO_____

2. **RECORD THE SETTING OF THE GREASE JOCKEY TIMER (it should not be on TEST)**

   Air operated system (timer usually mounted in Cab): 0.5_____ 1_____ 1.5_____ 2_____ 3_____ 4_____ 6_____ hours

   Electric operated system: 8_____ 15_____ 30_____ 60_____ 90_____ 120_____ 180_____ 240_____ 360_____ minutes

3. Set the Grease Jockey timer to the TEST position (at the test position a Grease Jockey air operated system will every minute - 45 seconds on, 15 seconds off; an electrically operated system will cycle approx. every 2 minutes - 45 seconds on, 75 seconds off).

4. Turn the ignition switch to the on position (engine not running). The Grease Jockey system will begin to cycle in TEST mode (**for air operated systems the vehicle air pressure must be at least 100 psi**).

5. A - AIR OPERATED PUMP & SOLENOID VALVE (**Air operated system**):
   Check the operation of the pump and solenoid (Listen for the solenoid to click on. Approx. 45 seconds later air will exhaust from the bottom of the solenoid as the pump piston moves back);

   Pump Working: YES_____ NO_____ Solenoid Working: YES_____ NO_____

   B - ELECTRICALLY OPERATED PUMP (**Electrically operated system**);
   Check the operation of the pump (listen to the pump motor running during the 45 second on time).

   Pump Working: YES_____ NO_____

6. Check main lines and secondary lines for damage (Look for accumulation of grease where there should be none; broken lines; lines not connected to, or leaking around, the fitting).

   Condition of main lines (5/16 in. OD) OKAY_____ LINE PROBLEM_____

   Condition of distribution line (3/16 in. OD) OKAY_____ LINE PROBLEM_____

7. Check chassis lube points for signs of FRESH grease:

   Signs of fresh grease at lube points: YES_____ NO_____

8. **<u>IMPORTANT:</u> RESET THE GREASE JOCKEY TIMER TO THE SETTING RECORDED AT STEP 2.**
   CAUTION: the timer should never be left at the TEST position

   Timer Reset to:_____ **Hours/Minutes:**_____

9. Detail any problems: (refer to the troubleshooting sheet for corrective action or call Graco for technical assistance at the number shown below:_____

   _____

   _____ Inspected by:_____

Tear out this page at the perforation and RETURN A COPY OF THIS COMPLETED FORM WARRANTY REGISTRATION:
By Fax: 1-800-533-9656
By Mail: Fold on lines, tape edge, apply postage stamp and mail it

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Attn: Customer Service
GRACO, INC
1201 Lund Blvd
Anoka, MN 55303

GREASE JOCKEY PM PROCEDURE

PM/Inspection by: _____ Date: _____

PM Type: _____ Location: _____

Vehicle #: _____ Mileage: _____

REFER TO GREASE JOCKEY LUBE SYSTEM SCHEMATIC FOR LUBE POINT LOCATION/PARTS

1. Check chassis lube points for signs of FRESH grease:

   a. Grease at lube points adequate: _____

   b. Too much grease at lube points: ALL_____ ONE_____

   c. Not enough grease at all lube points: _____

   d. No sign of fresh grease at lube points: ALL_____ SOME_____ ONE_____

2. Check main lines and secondary lines for damage. (Look for accumulation of grease where there should be none). Check lines of wear or chafing.

   a. Condition of main lines: OKAY_____ LINE PROBLEM_____

   b. Condition of distribution lines: OKAY_____ LINE PROBLEM_____

3. Check that the air pressure is at least 100 psi. If not build up the pressure (air operated pump only). Turn the ignition switch to on (the engine does not have to be running).

4. A - AIR OPERATED PUMP: Press the manual override button on the timer (located in the cab). Check operation of the pump and solenoid (Listen for the solenoid to click on. 45 seconds later air will exhaust from the bottom of the solenoid as the pump piston moves back):

   Pump OK_____ Pump not working_____

   Solenoid OK_____ Solenoid not working_____

   B - ELECTRICALLY OPERATED PUMP: Press the manual override button located on the pump body. Listen to motor operating.

   Pump OK_____ Pump not working_____

5. Check level of reservoir:

   Full_____ Half_____ Less than half_____

6. Fill reservoir with grease. (Use fluid grease NLGI "00" Lithium EP).
   Connect grease filler pump quick disconnect to the mating quick disconnect at the base of the automatic lube system pump.
   CAUTION: Do not over fill reservoir.

   YES_____ NO_____

7. Detail all problems and corrective action. (Refer to troubleshooting section for corrective actions).

_____

_____

_____

_____

GRACO, INC.

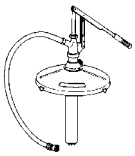
Telephone: 1-800-USA-LUBE (1-800-872-5823)

TROUBLESHOOTING THE GREASE JOCKEY		
Problem	**Cause**	**Corrective Action**
(1a) Too much grease at all lube points	Timer cycle is too frequent	Adjust the timer one click to a higher timer cycle. (Example from 2 to hours)
(1b) Too much grease at one lube point	Meter leaking	Remove and replace meter
(1c) Not enough grease at all lube points	Timer cycle is too frequent	Adjust the timer one click to a lower time cycle. (Example form 3 to 2 hours)
(1d) No sign of fresh grease at all points	Lubricant reservoir is empty	Fill lubricant reservoir
	Lubricant reservoir filled with heavy grease which will not work in system	Remove and clean reservoir, refill with proper lubricant. Remove main line plugs from meter blocks, and cycle pump until old lubricant is removed from lines, replace main line plug
	Blown fuse, or break in wiring circuit	Check electrical short circuit or broken wire and repair
	Broken air line (air pump only)	Repair or replace line
	Inoperative solenoid air valve (air pump only)	Check electrical circuit to make sure voltage is reaching the solenoid coil form the timer. Connect a meter from the supply "black" wire to the return "white" wire at the connector of the solenoid. Do not connect direct to ground. Repair or replace wiring as required: Check coil resistance for approx. 20 ohms. Check valve operation; repair or replace if necessary. Check barbed connector for blockage
	Inoperative air pump	See 4a, page 17
	Inoperative electric pump	See 4b, page 17
	Inoperative timer	With the ignition switch on, check the input voltage of both the memory (orange) and the (red) switch wires: If there is not 12 VDC (or greater) repair electric supply. Set the timer to TEST. Check the output signal to the solenoid. Connect a meter from the timer supply to the return, NOT to the ground. (At the timer connector the supply is the blue wire and yellow is the return), (At the solenoid connector the supply may be a black wire and return a white wire). It should show 12 VDC during the On cycle (approx. 45 sec.) and 2 VDC or less during the off period (approx. 15 sec.) If there is no signal or a constant 12 VDC output, check lines from the timer to the solenoid for grounding or breakage; replace timer is necessary
	Main line broken	See 2a, page 17
	None of the above	Using 2,500 psi pressure gage, check for pressure at last module in system. The minimum gage reading should be 500 psi. If not, check pressure at pump "dead headed" pressure should reach 1,000 psi. If it does, check for blocked, broken or collapsed main line. Otherwise repair or replace pump pressure. (Pump de-energized) must delay to less than 120 psi for meters to resume. If pressure does not delay, pump vent valve is stuck or plugged. Repair or replace pump.

TROUBLESHOOTING THE GREASE JOCKEY		
Problem	**Cause**	**Corrective Action**
No sign of fresh grease at some lube points	Main line broken	See 2a below
	Air lock in main line	Purge main line of air, See page 12, Step 7
No sing of fresh grease at one lube point	Secondary line damage	See 2b below
	Meter inoperative	Replace meter
	Lube point fitting has been broken	Remove fitting and replace
(2a) Main lube line damaged	Trapped and broken, rubbed through	Replace or repair (re-route or protect the line to prevent the damage from happening again). Purge with grease to expel air before connecting new main line into system. Be sure to use a tube insert at all main line connections
	Main line has popped out of fitting	Refit line to the fitting using a new compression sleeve and a tube insert
(2b) Secondary line damaged	Trapped and broken, rubbed through	Replace or repair (re-route or protect the line to prevent the damage from happening again)
	Secondary line has popped out of fitting	Refit line to the fitting using a new compression sleeve. Be sure tube is fully inserted before tightening tube nut
	Lube point fitting has been broken	Remove broken fitting and replace
(4a) Air-operated pump not working	Solenoid valve not working	See 1d, page 16
	Air line damaged	Repair or replace if necessary
	Low air pressure	Build up air pressure in truck system
	Electric circuit to timer or solenoid is damaged	Check connections, repair or replace if necessary
	Timer is not working	Repair or replace timer
(4b) Electrically operated pump not working	Electrical circuit is damaged	Check electrical circuit to make sure voltage is reaching motor
	Inoperative motor	Repair or replace motor if necessary

( ) Refer to Grease Jockey PM Procedure on page 15

PARTS LIST

Description		Part No.	Old Part No.
Installation Kits	30 pt Single Axle Tractor, Air Pump, Flex Reservoir	563801	550-500-105
	34 pt Tandem Axle Tractor, Air Pump, Flex Reservoir	563802	550-500-155
	30 pt Single Axle Tractor, Electric Drive Pump, Flex Reservoir	563804	550-501-445
	34 pt Tandem Axle Tractor, Electric Drive Pump, Flex Reservoir	563803	550-501-435
Air Pump Repair/Rebuild Kit		563762	550-400-792
Soft to Hard Conversion Kit		563931	560-002-460
Manual Trailer Kits	6 pt Single Axle System	563805	550-502-051
	12 pt Tandem Axle System	563806	550-502-061
	5 pt Landing Gear System	563807	550-502-121
Trailer Add-On Kit to attach a system to a tractor w/a GJ System 12 pt Tandem Axle		–	550-502-320
	Filler Pump Assembly, Fits 35 lb Pail	563569	550-000-020
	35 lb Pail, NLGI "00", Non-Moly	557941	550-400-020
	Air Pump Assembly w/Flex Reservoir	563570	550-000-040
	Flex Reservoir Replacement Kit	563761	550-400-780
	Reservoir Only	563935	560-002-690
	Clamp	557878	550-050-240
	Air Pump Assembly w/6 lb Rigid Reservoir	563584	550-001-050
	Air Pump Assembly w/12 lb Rigid Reservoir	Dis	550-001-060
	6 lb Reservoir Replacement Kit	563774	550-402-530

PARTS LIST

Description		Part No.	Old Part No.
	Timer for Air System, 12-32 VDC	557926	550-200-081
	Electrical Wire Lead for Air Pump Timer	557929	550-250-120
	Solenoid Valve Kit		
	12 VDC	557932	550-250-266
	24 VDC	557931	550-250-265
	Wire Lead - 22 ft for Solenoid Valve	563642	550-250-140
	Plug, Manifold End, 1/4 NPT	555808	550-050-210
	Plug, Manifold Stud, 1/8 NPT	556410	412-240-010
	Metering Valve		
	#0	563627	550-100-000
	#1	563629	550-100-010
	#2	563631	550-100-020
	#3	563633	550-100-030
	#4	563635	550-100-040
	#8	563637	550-100-080
	Meter Output Port Plug	557901	550-150-130
	Meter Output Sizing Spacer	557898	550-150-020
	12 Port Manifold w/ Stud	363758	550-350-145
	Replacement Stud	563946	560-002-975
	Manifold Meter Port Plug	15M038	550-350-040
	Tube Stripper	558058	572-144-690

PARTS LIST

Description		Part No.	Old Part No.
	Distribution Lines, 3/16 in. OD Tubing x 15 ft Bundles, Prefilled		
	1 Tube, Black	563786	550-450-980
	2 Tube Bundle	563792	550-450-930
	3 Tube Bundle	563794	550-450-950
	Main Line Tubing (Not Prefilled), 5/16 in. OD x 60 ft	561132	550-450-230
	5/16 in. Tubing Insert, Package of 20	557963	550-402-330
	Nylon Straps, Package of 100	563770	550-402-340
	Clamps, 9/32 in. Hole		
	5/16 in.	557943	550-400-040
	3/8 in.	557946	550-400-070
	7/16 in.	557944	550-400-050
	1/2 in.	557947	550-400-080
	5/8 in	557945	550-400-060
	Nut, 3/16 in. Tube w/ Captive Sleeve	556660	435-702-340
	Nut, 5/16 in. Tube w/ Captive Sleeve	556666	435-702-503
	Male Connector, 1/8 in. NPT, 3/16 in. Tube	556644	435-460-030
	Male Connector, 1/8 in. NPT, 5/16 in. Tube	556645	435-460-060
	Male Connector, 1/4 in. NPT, 5/16 Tube	556646	435-460-070
	Male 90º Elbow, 1/8 NPT, 3/16 in. Tube	556638	435-440-030
	Male 90º Elbow, 1/8 NPT, 5/16 in. Tube	556639	435-440-060
	Male 90º Elbow, 1/4 NPT, 5/16 in. Tube	556640	435-440-070
	Fitting Adapter, Straight, 1/4-28 in. SAE x 3/16 in. Tube	562995	435-702-367

PARTS LIST

Description		Part No.	Old Part No.
	Elbow, Straight, 1/8 in. NPT x 1/4-28 in. SAE, Standard	15K740	550-400-800
	Elbow, Straight, 1/8 in. NPT x 1/4-28 in. SAE, Short	15K784	550-400-805
	Street Elbow, 1/8 in. NPT x 1/8 in. NPT, 90º	15K783	509-110-000
	Street Elbow, 1/8 in. NPT x 1/8 in, NPT, 45º	557395	509-111-000
	Street Elbow, 3/8 in. NPT x 3/8 in. NPT, 90º	560534	509-117-000
	Adapter, Straight, 1/8 in. NPT x 1/4-18 in. SAE Male	557955	550-400-880
	Adapter, Press to Fit to Replace Unthreaded Grease Fittings, 1/8 in. NPT	15M037	435-702-558
	3/16 in. Tube Union	556647	435-470-020
	5/16 in. Tube Union	556648	435-470-040
	Tee Male Branch, 1/8 in. NPT x 5/16 in. Tube	556636	435-410-040
	Tee, Tube Union, 5/16 in. Tube	556637	435-420-030
	Female Elbow, 1/8 in. NPT x 3/16 in. T	556670	435-702-564
	Bulkhead Fitting, 1/8 in. NPT	557950	550-400-450
	Extension, 1/8 in. NPT, 3/4 in.	557392	509-027-000
	Extension, 1/8 in. NPT, 1-1/4 in.	557393	509-028-000

PARTS LIST

Description		Part No.	Old Part No.
	Zerk Adapter Press-On	556448	412-700-684
	w/Male Elbow	556638	435-440-030
	Zerk Adapter Press-On	556448	412-700-684
	Male Connector	556644	435-460-030
	Electric Pump Assembly, Flex Reservoir, Timer, 12 VDC	563595	550-002-095
	Electric Pump Assembly, Flex Reservoir, Timer, 24 VDC	563596	550-002-105
	Wiring Lead, 20 ft	563142	492-240-244
	Universal Pump Mounting Bracket	557966	550-402-690
	Reservoir Fill Coupling, 1/4 in. NPT Female	557877	550-050-230
	Reservoir Fill Coupling, 3/8 in. NPT Male	557880	550-050-300
	Dust Cap	557875	550-050-130
Grease Jockey Basic Inventory Kit - Solenoid, Tubes, Fittings, Inserts		Dis	550-403-041

Additional Grease Jockey Bulletins

Description	Bulletin No.
Grease and Meters	L00002
Changing Meter Volume	L00003
Vehicle Design Guide	L20101
Trailer Auto Lube Installation and Maintenance Manual	L30060
EZ Greaser Installation Instructions	L44000
RoadWarrior Installation and Maintenance Manual	L40050