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RANCO BOTTOM DUMP



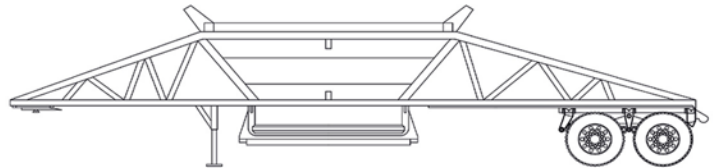
OPERATING, MAINTENANCE & PARTS MANUAL

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The information in this manual is relevant to all Ranco Bottom Dump Trailers, including but not limited to the following:

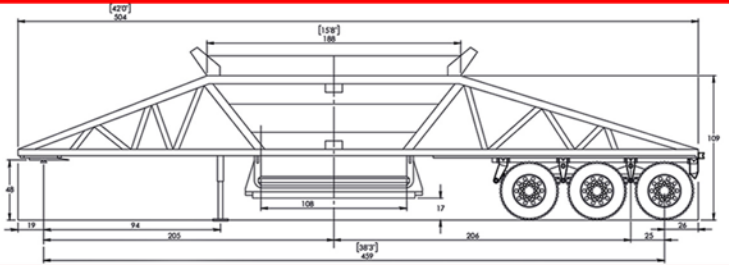
LW21-40-2 2-AXLE BOTTOM DUMP

CAPACITY: 22 YARDS PLUS SIDEBOARDS
HOPPER OPENING: 15' 8"
OVERALL WIDTH: 102"
OVERALL LENGTH: 40' 1"
AR250 HOPPER CONSTRUCTION



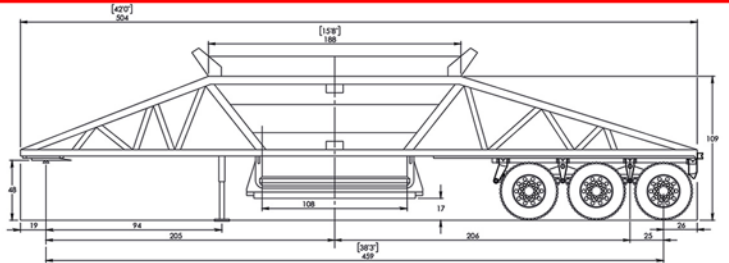
LW21-40-3 3-AXLE BOTTOM DUMP

CAPACITY: 21 YARDS PLUS SIDEBOARDS
HOPPER OPENING: 15' 8"
OVERALL WIDTH: 102"
OVERALL LENGTH: 40'
AR250 HOPPER CONSTRUCTION



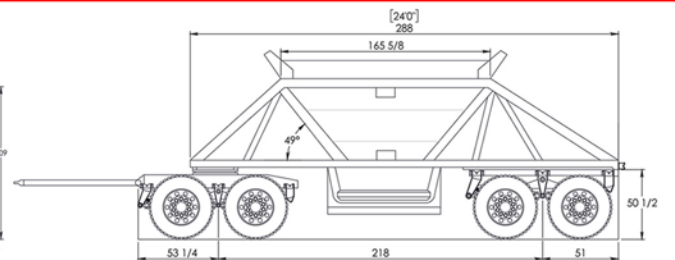
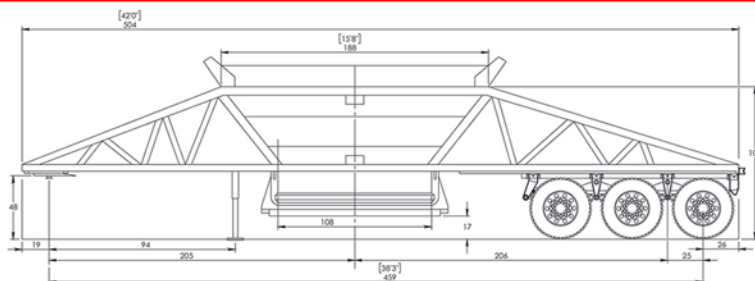
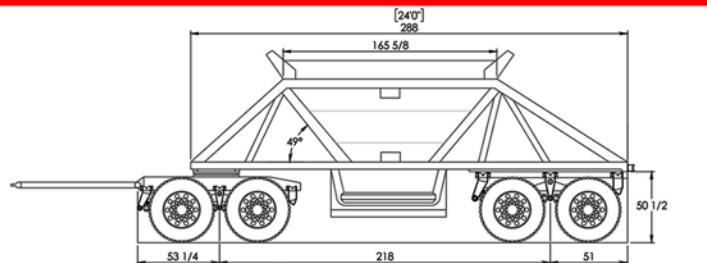
LW21-42-3 3-AXLE BOTTOM DUMP

CAPACITY: 21 YARDS PLUS SIDEBOARDS
HOPPER OPENING: 15' 8"
OVERALL WIDTH: 102"
OVERALL LENGTH: 42'
AR250 HOPPER CONSTRUCTION



14-24-4P 4-AXLE BOTTOM DUMP PUP

CAPACITY: 14 YARDS PLUS SIDEBOARDS
HOPPER OPENING: 13' 9"
OVERALL WIDTH: 102"
OVERALL LENGTH: 24'
AR250 HOPPER CONSTRUCTION



BOTTOM DUMP

OPERATION – MAINTENANCE & PARTS MANUAL

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 - c. [CRAMARO TARP PAGE 3](#)
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- F. [SPECIAL PUSH BLOCKS](#)**

ITEMS IN THIS SECTION APPLY ONLY TO THE SPECIFIC TRAILER SERIAL NUMBER THAT THIS PARTS CATALOG IS MADE FOR.



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SECTION ONE

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Dragon Products, LLC

PO BOX 790, BEAUMONT, TEXAS 77704-0790

FAX: 801-466-9276

EMAIL: WARRANTY@RANCO.COM

RANCO
by WESTERN

ONE YEAR LIMITED WARRANTY

Dragon Products, LLC and related companies (seller) warrants its new products to be free from defects in material or workmanship under normal legal use and service for a period of one year from the date of purchase (delivery). Seller's sole obligation, at its option, will be to repair or replace any products returned to the factory, which upon inspection by seller are determined to be defective in material and/or workmanship.

Warranties shall not apply to normal wear and tear, maintenance, service, adjustments, any equipment which has been altered or repaired in any way, or any items subject to misuse, negligence, or accident.

Warranties shall not apply to components manufactured by persons other than Dragon Products, LLC including, but not limited to; cylinders, tires, suspension, axles, bearings, etc.

Any claim under this warranty must be submitted in written notification detailing the defect to Dragon Products, LLC, Beaumont, TX. Product must be returned to the factory, transportation charges prepaid.

Seller makes no warranties, either express or implied, except as provided herein, including without limitation thereof, warranties as to the marketability, merchantability, or suitability for a particular purpose or use. In no event shall Seller be liable for any direct, incidental or consequential damages of any nature, or losses or expenses resulting from any defective product or the use of any such product, including any damages for the loss of time, inconvenience, or loss of use of any such product.

-----Detatch and Mail, Email, or Fax to Dragon Products-----

DATE OF PURCHASE: ____/____/____

MODEL: _____ LENGTH: _____ COLOR: _____

VIN:																	
VIN:																	

COMPANY NAME: _____

CONTACT: _____

ADDRESS: _____

CITY, ST, ZIP: _____

DEALER: _____

LOCATION: _____

SALESMAN: _____

*PRODUCT MUST BE REGISTERED WITHIN 30 DAYS OF PURCHASE TO ACTIVATE
WARRANTY, FOR MORE INFORMATION PLEASE CONTACT YOUR DEALER*

I HAVE READ AND UNDERSTAND THE ABOVE WARRANTY AND VERIFY THAT THE
INFORMATION PROVIDED IS CORRECT TO THE BEST OF MY KNOWLEDGE:

CUSTOMER SIGNATURE: _____ DATE: ____/____/____

IF YOU BELIEVE THAT YOUR VEHICLE HAS A DEFECT, WHICH COULD CAUSE A CRASH OR COULD CAUSE INJURY OR DEATH, YOU SHOULD IMMEDIATELY INFORM THE NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION (NHTSA) IN ADDITION TO NOTIFYING RANCO TRAILERS.

IF NHTSA RECEIVES SUFFICIENT SIMILAR COMPLAINTS, IT MAY OPEN AN INVESTIGATION AND IF IT FINDS THAT A SAFETY DEFECT EXISTS IN A GROUP OF VEHICLES, IT MAY ORDER A RECALL AND REMEDY CAMPAIGN. HOWEVER, NHTSA CANNOT BECOME INVOLVED IN INDIVIDUAL PROBLEMS BETWEEN YOU, YOUR DEALER OR RANCO TRAILERS.

TO CONTACT NHTSA, YOU MAY EITHER CALL THE AUTO SAFETY HOT LINE TOLL FREE AT 1-800-424-9393 (OR 366-0123 IN WASHINGTON DC AREA) OR WRITE TO NHTSA, U.S. DEPARTMENT OF TRANSPORTATION, WASHINGTON, D.C. 20590. YOU CAN ALSO OBTAIN OTHER INFORMATION ABOUT MOTOR VEHICLE SAFETY FROM THE HOT LINE.



GENERAL INFORMATION

MAINTENANCE SHOULD BE PERFORMED BY A RANCO DEALER OR OTHER QUALIFIED SERVICE FACILITY THAT REGULARLY PROVIDE SUCH SERVICE. ALTERATIONS TO A RANCO TRAILER SHOULD NOT BE MADE WITHOUT FIRST CONSULTING RANCO.

ALTERATIONS COULD AFFECT THE STRUCTURAL INTEGRITY OF THE TRAILER AND VOID THE WARRANTY. WELDING OR OTHER ALTERATIONS SHOULD NEVER BE MADE TO ANY AIR RESERVOIR, WHEEL, RIM, AIR CHAMBER OR SPRING.

THE GROSS AXLE WEIGHT RATING (GAWR) THAT IS STAMPED ON THE CERTIFICATE PLATE IS THE STRUCTURAL CAPACITY OF THE LOWEST RATED COMPONENT OF THE SUSPENSION, SPRINGS, HUBS, DRUMS, WHEELS, RIMS, BEARINGS, AXLES OR TIRES.

IF COMPONENTS ARE SUBSTITUTED THAT AFFECT GAWR AND ARE OF LESS CAPACITY THAN THOSE ORIGINALLY INSTALLED, THE GAWR ON THE CERTIFICATE PLATE MUST BE LOWERED TO THE CORRESPONDING LOWER CAPACITY BY ADDING AN **“ALTERED VEHICLE”** LABEL. IF COMPONENTS ARE SUBSTITUTED THAT ARE OF EQUAL OR GREATER CAPACITY THAN THOSE ORIGINALLY INSTALLED, THEN THE GAWR LABEL NEED NOT BE CHANGED.

PROTECTIVE FILMS SUCH AS PAINTS AND OTHER COATINGS, ARE NECESSARY TO PREVENT CORROSION AND TO PROTECT THE METAL SURFACES. TRAILERS THAT OPERATE IN ENVIRONMENTS THAT ARE CONDUCTIVE TO SEVERE CORROSIONS MAY REQUIRE MORE OR DIFFERENT PROTECTIVE COATING THAN THOSE USUALLY APPLIED AS STANDARD. CHECK WITH YOUR RANCO DEALER OR THE FACTORY FOR RECOMMENDATIONS ON COATINGS FOR CORROSIVE MATERIALS.

THERE ARE **“WARNING”** AND **“CAUTION”** DECALS PROMINENTLY DISPLAYED ON ALL RANCO TRAILERS. THESE SHOULD BE FOLLOWED TO THE LETTER BY ALL PERSONNEL OPERATING OR WORKING ON THE VEHICLE.



OPERATING INSTRUCTIONS

OPERATOR PRE-START CHECKS

BEFORE BACKING UNDER THE TRAILER, BE SURE THAT THE TRUCK 5TH WHEEL IS PROPERLY GREASED AND THAT THE 5TH WHEEL HEIGHT IS COMPATIBLE WITH THE 5TH WHEEL PIN HEIGHT.

CHECK SPRING BRAKES TO INSURE THAT THEY ARE PROPERLY SET SO THAT THE TRAILER WILL NOT SLIDE BACK WHEN THE TRACTOR IS BACKED UNDER THE 5TH WHEEL. THIS TRAILER IS EQUIPPED WITH SPRING BRAKES THAT WILL LOCK THE BRAKES WHEN ALL AIR LINES ARE DISCONNECTED FROM THE TRACTOR AND WILL ONLY RELEASE AFTER THE AIR BRAKE PRESSURE IN THE AIR TANKS EXCEEDS 100 POUNDS.

STARTING PROCEDURE AND CONTROLS

AFTER BACKING THE TRACTOR UNDER THE TRAILER AND INSURING THAT THE 5TH WHEEL IS LOCKED BY ATTEMPTING TO PULL AHEAD, THE AIR LINES AND ELECTRICAL CONNECTOR SHOULD BE CONNECTED PROPERLY, ENSURING THAT THE SERVICE AND EMERGENCY GLADHANDS ARE CONNECTED TO THE SERVICE AND EMERGENCY GLADHANDS ON THE TRAILER. ALL GLADHANDS SHOULD BE COLOR CODED, SERVICE (BLUE) AND EMERGENCY (RED). AFTER PROPER CONNECTION IS MADE, THE VALVE IN THE TRACTOR THAT ALLOWS AIR TO FLOW TO THE TRAILER SHOULD BE OPENED.

WHILE AIR PRESSURE IS BEING BUILT IN THE TRAILER TANKS THE OPERATOR SHOULD PERFORM THE FOLLOWING INSPECTIONS AND PROCEDURES TO INSURE THAT THE TRAILER IS IN OPERATIONAL CONDITION WHEN THE AIR PRESSURE IS BUILT UP SUFFICIENTLY TO RELEASE THE BRAKES.

1. RAISE THE PARKING LEGS OF THE TRAILER TO THE TRAVEL POSITION.
2. CHECK THE TIRES FOR PROPER INFLATION AND TO INSURE THERE ARE NO CUTS OR BRUISES THAT WILL LEAD TO TIRE FAILURE ON THE ROAD. WHILE CHECKING THE TIRES, THE OPERATOR SHOULD ALSO OBSERVE THE LEVEL OF OIL IN THE STEMCO OIL SEALS. (REFER TO LUBRICATION SECTION)
3. TURN ON THE TRACTOR LIGHTS AND CHECK ALL TRAILER LIGHTS FOR PROPER OPERATION. REPLACE LIGHTS OR BULBS THAT ARE NOT OPERATING PROPERLY.
4. AT THIS TIME THE AIR PRESSURE SHOULD HAVE BUILT UP SUFFICIENTLY TO HAVE RELEASED THE BRAKES ON THE TRAILER. CHECK TO SEE THAT ALL BRAKES HAVE IN FACT RELEASED. IF THEY HAVE NOT RELEASED CHECK TO SEE WHY AIR IS NOT GETTING TO THEM
5. AFTER THE BRAKES HAVE RELEASED, CHECK FOR AIR LEAKS. LISTEN FOR ANY AIR LEAKS IN THE AIR GATE OPERATING SYSTEM AS WELL AS IN THE

AIR BRAKE SYSTEM. ANY LEAK DISCOVERED SHOULD BE FIXED PRIOR TO ATTEMPTING TO OPERATE THE TRAILER.

6. CHECK THE GATE CONTROL CHAINS (OR PIN SETTING EQUALIZER) ON THE FRONT AND REAR OF GATES TO ASSURE THEY ARE PROPERLY SET FOR THE PRODUCT BEING DUMPED AND ARE BOTH SET THE SAME
7. AFTER INSURING THAT THE TRAILER IS EMPTY OF ANY PRODUCT, CHECK THE FUNCTION OF THE DUMP VALVE USING THE MANUAL HANDLE ON THE SIDE OF THE TRAILER WHERE THE FILTER AND LUBRICATOR ARE LOCATED. PUSHING UP ON THE HANDLE WILL OPEN THE GATES AND WHEN THE HANDLE IS RELEASED THE GATES WILL CLOSE. **(THE ABOVE INSTRUCTIONS APPLY WHEN USING THE STANDARD WABCO AIR VALVE. WHEN USING OTHER OPTIONAL VALVES, CONSULT THE SPECIAL OPTIONS SECTION OF THIS MANUAL FOR OPERATION OF THE TYPE OF VALVE INSTALLED ON THIS UNIT)** THIS IS A GOOD TIME TO CHECK TO SEE THAT THE LUBRICATOR IS FUNCTIONING PROPERLY. WHEN THE GATES ARE CYCLED BY USING THE DUMP VALVE, APPROXIMATELY 4 TO 5 DROPS OF LUBRICANT SHOULD DROP FROM THE TUBE VISIBLE IN THE SIGHT GLASS AT THE TOP OF THE LUBRICATOR. IF NO OIL IS OBSERVED OR IS TOO MUCH IS OBSERVED, AN ADJUSTMENT CAN BE MADE USING THE SMALL ADJUSTING SCREW ON TOP OF THE OILER. IF EVERYTHING FUNCTIONS PROPERLY, RETURN TO THE TRACTOR AND USING THE TOGGLE SWITCH, CYCLE THE GATES AGAIN TO INSURE THAT THE ELECTRICAL CONNECTION IS WORKING.

OPERATION OF THE BASIC UNIT

A BOTTOM DUMP TRAILER IS DESIGNED TO HAUL AND DUMP A VARIETY OF MATERIALS, SAND, GRAVE, ROCK, DIRT, COAL, ETC. THERE ARE THREE BASIC WAYS TO DUMP A BOTTOM DUMP TRAILER.

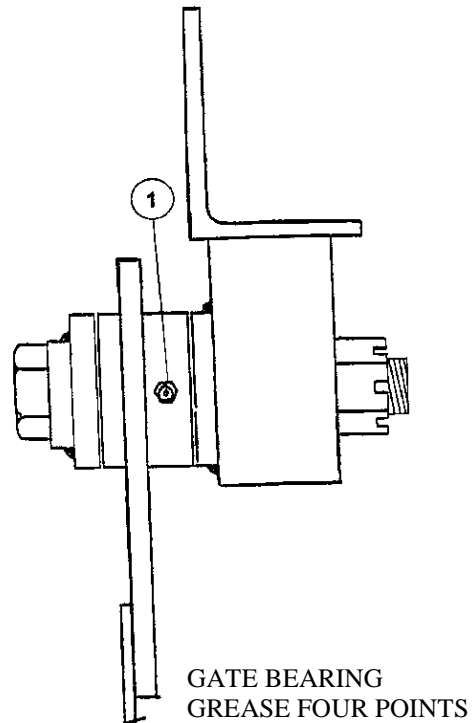
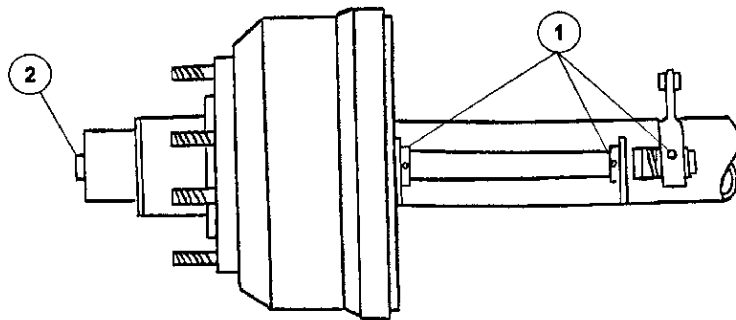
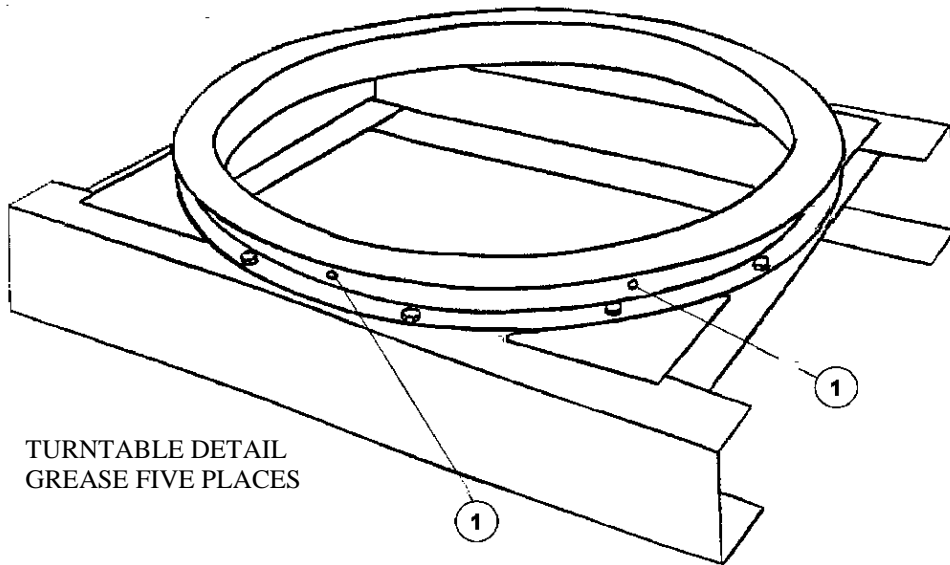
1. DUMP OVER A GRIZZLY: DUMPING OVER A GRIZZLY IS THE SIMPLEST AND REQUIRES ONLY THAT THE DRIVER LOCATE THE HOPPER DOORS OVER THE GRIZZLY AND ACTIVATE THE DUMP SWITCH TO RELEASE THE LOAD. THE GATE CHAINS (PIN SETTING EQUALIZER) WOULD NORMALLY BE SET TO THE FULL OPEN POSITION UNLESS THE GRIZZLY IS VERY NARROW, IN WHICH CASE, THE GATES WOULD BE ADJUSTED ACCORDINGLY. DUMPING IN THIS MANNER IS USUALLY ACCOMPLISHED 10 SECONDS OR LESS. DEPENDING ON THE MATERIAL BEING DUMPED, THE OPERATOR MIGHT WANT TO BANG THE GATES CLOSED AND RE-OPEN THEM TO INSURE A COMPLETE CLEAN-OUT OF MATERIAL PRIOR TO PULLING OFF THE GRIZZLY.
2. DUMP IN A WINDROW: DUMPING IN A WINDROW IS PROBABLY THE MOST COMMON METHOD OF DUMPING A BOTTOM DUMP TRAILER. IN THIS METHOD, A DETERMINATION IS MADE AS TO HOW LONG AND WIDE A WINDROW IS DESIRED AND THE GATES ARE CHAINED (OR PINNED) TO OPEN TO A PRESET WIDTH SO THE PROPER WINDROW IS OBTAINED. CAUTION! ALWAYS INSURE THAT THE FRONT AND REAR SETTING ARE THE SAME, OTHERWISE GATE TWISTING CAN RESULT IN PERMANENT DAMAGE TO THE GATES, EQUALIZERS AND/OR HINGES. WHEN THE OPERATOR ARRIVES AT THE LOCATION THE WINDROW IS DESIRED, HE STOPS AND THEN GENERALLY USING THE LOWEST GEAR, STARTS SLOWLY FORWARD AND ACTIVATES THE GATE SWITCH TO OPEN THE GATES. AGAIN, DEPENDING ON THE MATERIALS BEING DUMPED, THE OPERATOR MAY WANT TO BANG THE GATES CLOSED AND RE-OPEN THEM TO INSURE THAT THE MATERIAL IS CLEANED OUT OF THE TRAILER AT THE END OF THE WINDROW.
3. SPREADING: SPREADING IS A DUMPING METHOD THAT IS GENERALLY USED WITH ROAD BASE, GRAVEL OR A SIMILAR PRODUCT AND IS USED TO BUILD UP AN EXISTING ROAD. IN THIS METHOD, THE GATES ARE CHAINED (OR PINNED) TO BETWEEN 12 AND 24 INCHES AND THE TRUCK SPEED IS MAINTAINED AT 15 TO 25 MILES PER HOUR. TO OBTAIN THE BEST RESULTS, SOME TRIAL RUNS ARE GENERALLY NECESSARY. THE IDEA IS TO SPREAD THE GRAVEL APPROXIMATELY 40 FEET WIDE BY 100 FEET LONG. DONE PROPERLY, THIS WILL RESULT IN 3 TO 4 INCHES OF GRAVEN IN THE CENTER OF THE ROAD AND 1 TO 1 ½ INCHES ON EACH EDGE OF THE ROAD. THIS METHOD IS USED BY MOST COUNTY AND STATE ROAD DEPARTMENTS TO RESURFACE GRAVEL ROADS.

SAFETY PRECAUTIONS

THE BOTTOM DUMP TRAILER IS BASICALLY A SAFE UNIT SINCE IT DOES NOT HAVE TO BE RAISED IN THE AIR TO DUMP, BUT THERE ARE SEVERAL AREAS THAT REQUIRE OPERATOR ATTENTION TO POTENTIALLY DANGEROUS SITUATIONS.

1. THE OPERATOR SHOULD INSURE THAT THE DUMPING AREA IS FREE OF ANY OBSTRUCTIONS THAT WOULD DAMAGE THE TRAILER. SINCE THE GATE CLEARANCE OF 16 TO 17 INCHES IS MORE THAN THE AXLE CLEARANCE OF THE TRUCK, ANY OBJECT THAT CAN BE CLEARED BY THE TRUCK WILL BE CLEARED BY THE TRAILER.
2. THE OPERATOR SHOULD INSURE THAT THE GROUND IS STABLE AND WILL SUPPORT THE FULLY LOADED TRUCK AND TRAILER WITHOUT BOGGING DOWN.
3. IF DUMPING AT ANY SPEED ABOVE THE LOWEST GEAR THE OPERATOR SHOULD NEVER DUMP IN ANY DIRECTION BUT STRAIGHT AHEAD.

PARTS LUBRICATION



LUBRICATION INSTRUCTIONS

GREASE:

THERE ARE SEVERAL POINTS ON THIS TRAILER THAT REQUIRE GREASE. ANY STANDARD LITHIUM BASED MULTI-PURPOSE GREASE WILL SUIT THE REQUIREMENTS FOR GREASING THESE POINTS. GREASING SHOULD BE ACCOMPLISHED EVERY 100 HOURS OR EVERY 5000 MILES DURING NORMAL SERVICE.

AS NOTED IN THE DRAWING ON PAGE 4, IF YOU ARE PULLING A PUP TRAILER WITH A TURNTABLE THERE ARE 5 GREASE FITTINGS. IF YOU HAVE A STANDARD 5TH WHEEL WE HAVE PROVIDED TWO GREASE FITTINGS ON TOP OF THE 5TH WHEEL SO THAT YOU CAN APPLY GREASE TO THE 5TH WHEEL WITHOUT UNHOOKING FROM THE TRAILER.

THERE ARE ALSO 4 GREASE FITTINGS ON THE GATES, ONE ON EACH GATE BEARING.

ON EACH AXLE THERE ARE THREE GREASE FITTINGS ON THE SLACK ADJUSTER AND ON THE BRAKE CAMSHAFT HOUSING.

AXLE LUBRICANT:

ANY STANDARD 90 WEIGHT GEAR LUBE IS SUITABLE FOR USE IN THE AXLE SEAL CAVITY. THE LEVEL OF THE LUBRICANT SHOULD BE APPROXIMATELY ¼ INCH BELOW THE FILL PLUG IN THE END OF THE STEMCO OIL SEAL. A LINE AND THE WORD "FILL" IS IN THIS POSITION. IF THE OIL LEVEL SHOULD FALL BELOW THE LINE MARKED "ADD" ADDITIONAL LUBRICANT CAN BE ADDED THRU THE FILL PLUG USING ANY STANDARD GEAR LUBE PUMP.

AIR LINE LUBRICATOR:

ANY GOOD QUALITY 5 WEIGHT OIL WITH AN SSU OF 100 TO 110 SHOULD BE ADEQUATE TO USE IN THE AIR LINE LUBRICATOR. **(NOTE: HEAVIER WEIGHT OILS MAY PLUG SMALL OPENINGS IN THE AIR SYSTEM. DO NOT USE OIL HEAVIER THAN 5 WEIGHT)** THE RATE OF OIL DELIVERY SHOULD BE SET AT 4 TO 5 DROPS FOR EACH COMPLETE CYCLE (OPEN & CLOSE) OF THE HOPPER GATE. THE RATE OF OIL DELIVERY IS CONTROLLED BY TURNING THE ADJUSTING SCREW ON TOP OF THE OILER COUNTER-CLOCKWISE FOR INCREASING FLOW AND CLOCKWISE FOR DECREASING FLOW.

RECOMMENDED OILS TO USE IN OILER

AMACO-SPINDLE "C" OIL
TEXACO-SPINDLE "B" OR SPINDLE OIL
SHELL-TELLUS 21 HYDRAULIC OIL
MOBILE-VEOCITE "D" OR VEOCITE #10
EXXON-SPINESTIC 38 OIL
CONOCO-SPINDLE OIL 24 OR 26

NOTE: DRAWINGS OF THE AIR LINE LUBRICATOR ARE LOCATED IN THE AIR GATE PARTS SECTION OF THIS MANUAL.

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BOTTOM DUMP TRAILER



(888) 424-4004

PREVENTIVE MAINTENANCE

The following is a list of Preventive Maintenance measures that if followed will help keep your RANCO TRAILER in good working order and will result in a minimum of down time for your equipment.

DAILY CHECKS – MAINTENANCE

In addition to the daily inspection items that are required or recommended under DOT Regulations and any inspections/checks required by the Company, RANCO recommends that the following procedures be followed every day that your trailer is in use.

DRAIN ALL AIR TANKS – Refer to Post Shift section of Operating Instructions in Owners Manual & Yellow Decal on Trailer.

DRAIN AIR FILTER – Refer to General Lubrication & Maintenance in Owners Manual & Yellow Decal on Trailer.

CHECK LUBRICATOR FLUID LEVEL - Refer to General Lubrication & Maintenance in Owners Manual & Yellow Decal on Trailer.

CHECK BOTTOM DUMP GATE OPERATION – Refer to General Operating Instructions in Owners Manual.

GREASE 5TH WHEEL & KING PIN – Refer to General Operating Instructions in Owners Manual.

WEEKLY CHECKS – MAINTENANCE

GREASE GATE HINGES, AXLE CAM BUSHINGS & SLACK ADJUSTERS - Refer to General Lubrication & Maintenance in Owners Manual & Yellow Decal on Trailer.

ADJUST AND LUBRICATE TARP – Refer to Tarp Maintenance Section of General Lubrication & Maintenance in Owners Manual.

CHECK TIRE PRESSURE WITH GAGE – Refer to Tire Maintenance Section of General Lubrication & Maintenance in Owners Manual.

MONTHLY CHECKS – MAINTENANCE

CHECK SUSPENSION FOR CRACKS, WEAR & TORQUE VALUES – Refer to Suspension Section of General Lubrication & Maintenance in Owners Manual & Suspension Torque Requirements Decal on Suspension Sub-Frame.



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BOTTOM DUMP TRAILER SCHEDULED MAINTENANCE

The following is a list of Scheduled Maintenance measures that if followed will help keep your RANCO TRAILER in good working order and will result in a minimum of down time. These Scheduled Maintenance procedures are best performed at your DEALERS shop unless you have a qualified shop of your own capable of handling these procedures.

AFTER 1st MONTH OF USE

TARP ADJUSTMENT - The cables and the tarp material tends to stretch once you start using the trailer. It is very important that the slack be taken out of the cables properly during this first check. -Refer to Tarp Adjustment Section on BACK of this page for adjustment recommendations.

CHECK TORQUE ON ALL SUSPENSION FASTENERS - Once the trailer is placed in service; the fasteners stretch slightly and may lose the torque values that were applied at the factory. It is important that these torque values be maintained in order for the suspension to operate properly. The proper torque values for your suspension are listed in the Suspension Fasteners Section on BACK of this page and on a Decal attached to the sub-frame of your trailer.

CHECK TORQUE ON ALL WHEEL END FASTENERS - The wheel end fasteners stretch just like the suspension fasteners, and the torque should be checked after the ~ month of service. Refer to Wheel End Fasteners Section on BACK of this page for proper torque values for different styles of wheels.

GREASE GATE HINGES, AXLE CAM BUSHINGS & SLACK ADJUSTERS - Proper Lubrication is most important in the operation of any type of dump trailer and a regular schedule should be set up and maintained. -Refer to Grease Section on BACK of this page, Page 1-4 & 1-5 of this Manual & Yellow Decal on Trailer.

CHECK FOR PROPER ADJUSTMENT AND OPERATION OF BRAKES - The air brake system is always set and checked at the factory, but after being in use for a short period of time problems may show up, so brakes should be checked after 1 month and every 6 months after that. - Refer to Air Brake Section on BACK of this page for the proper method of checking brake wear & settings.

CHECK FOR PROPER OPERATION OF GATE SYSTEM - Refer to Operation of Gate System Section on BACK of this page.

CHECK TIRES FOR PROPER INFLATION AND WEAR - Refer to Tire Section on BACK of this page for proper inflation and tread depth information.

AFTER 6 MONTHS OF USE - REPEAT ALL CHECKS FROM 1st MONTH

AT 1 YEAR OF SERVICE - REPEAT ALL CHECKS FROM 6 MONTHS OF SERVICE



SCHEDULED MAINTENANCE WORK SHEET**TARP ADJUSTMENT****RECOMMENDED****CHECKED BY****DATE**

Cable Tension
V-Belt or Chain
Tarp Length
Bow Alignment

Not touching 18" ahead of rear pulley
Firm Tension
Stretched tight
All aligned

CHECK TORQUE ON ALL SUSPENSION FASTENERS:**H-900 SINGLE POINT
SUSPENSION****RECOMMENDED TORQUE**

1 1/8" Trunion "U" Bolts 880 ft. lbs.
1" Trunion Hanger Bolts 730 ft. lbs.
3/4" axle "U" Bolts 300 ft. lbs.
5/8" End Cap Bolts 180 ft. lbs.

H-970 (4 SPRING OR REYCO 886 SPRING SUSPENSION:

7/8" Axle "U" Bolts 300 ft. lbs.
5/8" Radius Rod Arm Clamp Bolts 155 ft. lbs.
5/8" Spring Retainer Bolts 50 ft. lbs.
1" Radius Rod Arm Bolts 50 ft. lbs.

CHECK TORQUE ON ALL WHEEL END FASTENERS:

Inner Lug Nuts 500 ft. lbs.
Outer Lug Nuts 500 ft. lbs.
Hub Piloted Nuts 500 ft. lbs.

GREASE GATE HINGES~ AXLE CAM BUSHINGS & SLACK ADJUSTERS:**GREASED****DATE**

Gate Bushings
Cam Bushings & Slack Adjusters

CHECK FOR PROPER ADJUSTMENT AND OPERATION OF BRAKES:

Check Brake Wear Amount of shoe remaining
(New is 24/32-Min 8/32 required)
RECOMMENDED
Check Push Rod Adjustment Not more than 1-7/8" stroke
Check Brake Drums No cracks - excessive **wear**
Check Brake Operation No air leaks - All brakes operating
Check ABS System See Book on System

LF _____ /32 LR _____ /32
RF _____ /32 RR _____ /32

CHECKED BY **DATE**

CHECK FOR PROPER OPERATION OF GATE SYSTEM:

Check for air leaks No leaks in hoses & fittings
Check Lubricator 4 to 5 drops per cycle minimum
Check Air Filter Drain works - Filter not clogged
Check for smooth gate operation No hesitation or sticking

CHECK ALL TIRES FOR PROPER INFLATION AND EVEN WEAR PATTERN:

Check Inflation See instructions on tire for proper inflation
Check Tread Depth (Min. 4/32 Required)

LF _____ /32 LFI _____ /32
LR _____ /32 LRI _____ /32
RF _____ /32 RFI _____ /32
RR _____ /32 RRI _____ /32



SECTION TWO

ELECTRICAL SYSTEM

2-9	<u>FRONT CROSS MEMBER & LIGHT RAIL PHOTOS</u>
2-10	<u>ELECTRICAL SYSTEM WIRING SCHEMATIC</u>
2-11	<u>ELECTRICAL SYSTEM PARTS LIST</u>
2-12	<u>TYPICAL 7-WAY OUTLETS ON BOX TYPE C/M</u>
2-13	<u>TYPICAL 7-WAY OUTLETS ON "I" BEAM C/M</u>
2-14	<u>STANDARD 12 VOLT WIRING SCHEMATIC</u> (USING PILOT AIR OR VERSA VALVES-FOR OTHERS SEE SPECIAL OPTIONS)
2-15	<u>SINGLE HOPPER GATE CONTROL SWITCH WIRING</u>
2-16	<u>DOUBLE HOPPER GATE CONTROL SWITCH WIRING</u>

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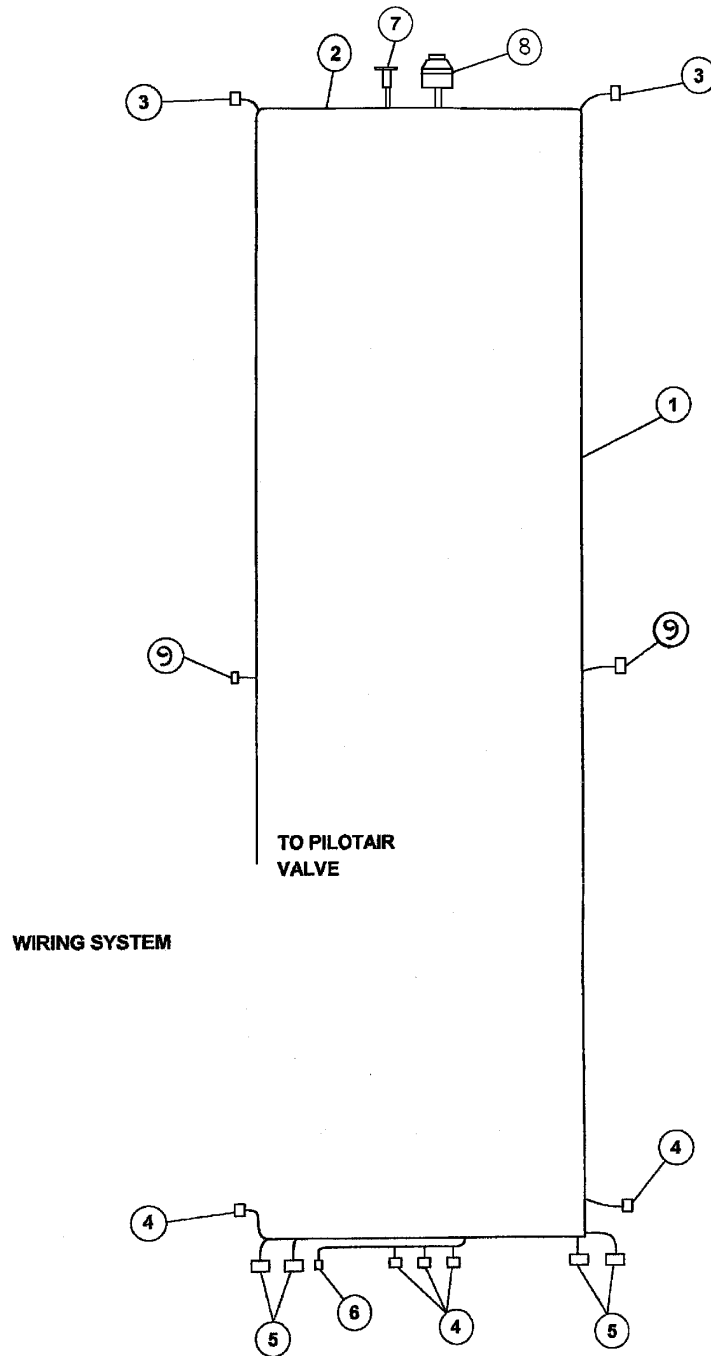
TYPICAL FRONT CROSS MEMBER

7-WAY ELECTRICAL PLUG WITH CIRCUIT BREAKERS- LEFT SIDE
 4-WAY ELECTRICAL PLUG-RIGHT SIDE ABOVE GLAD HANDS
 SERVICE AND EMERGENCY GLAD HANDS- RIGHT SIDE
 BELOW 4-WAY PLUG

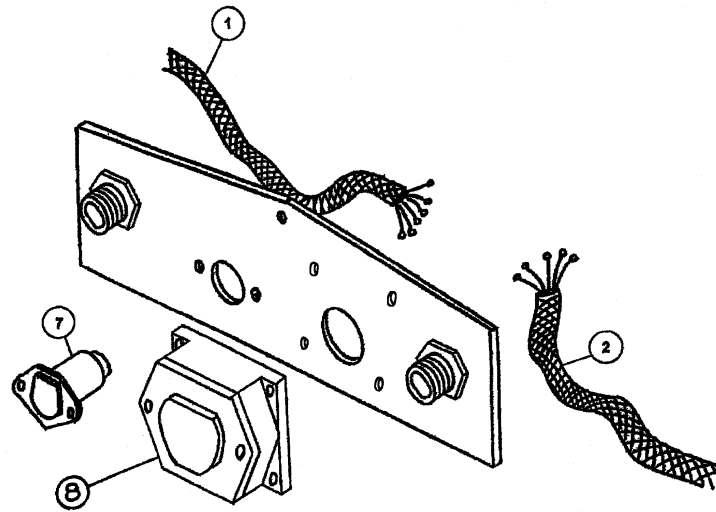


TYPICAL REAR LIGHT RAIL

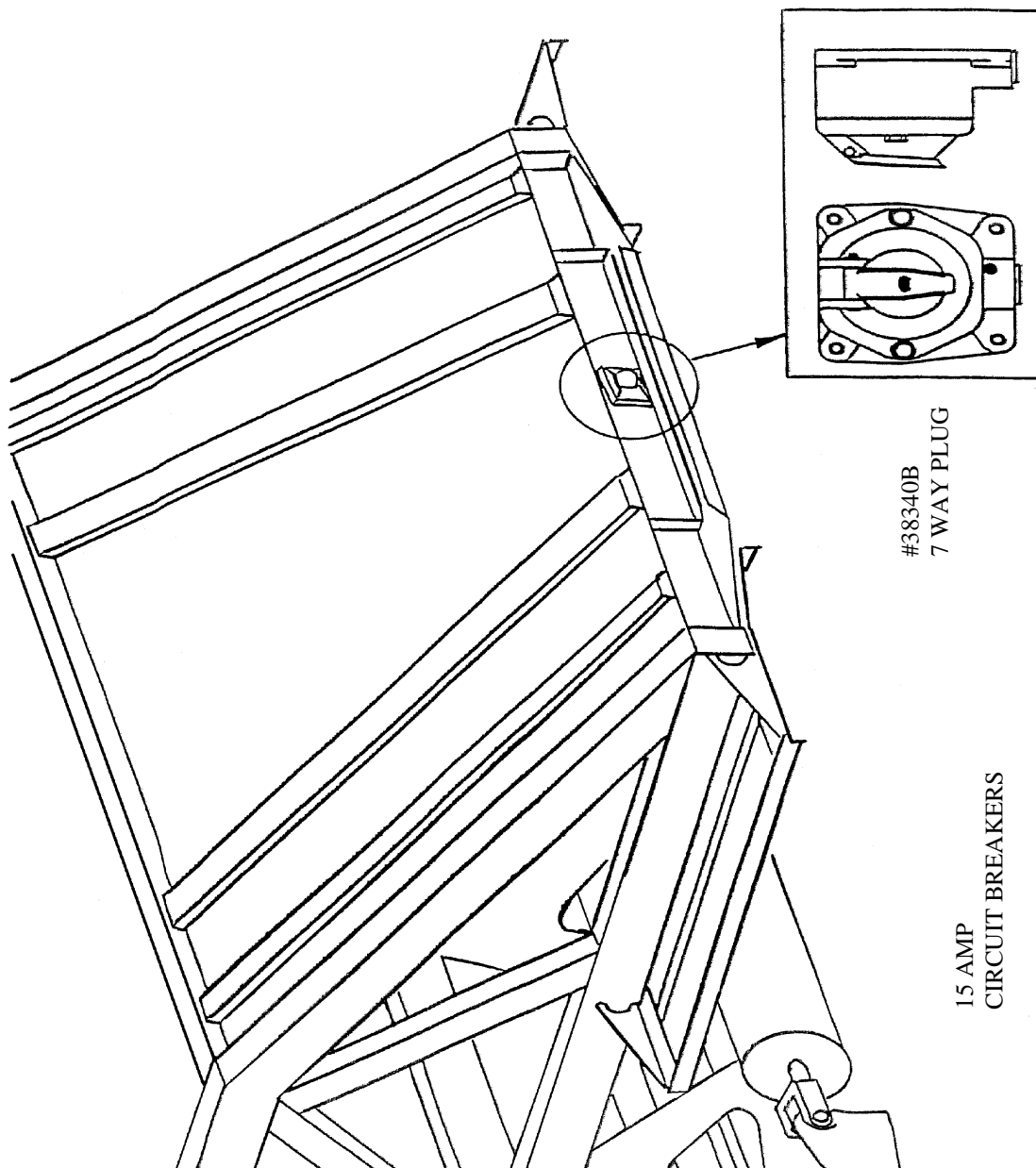
STOP & TAIL LIGHTS- RIGHT AND LEFT SIDES
 MARKER LIGHTS-CENTER
 LICENSE PLATE LIGHT-LEFT OF CENTER MARKER LIGHTS
 REFLECTORS-INSIDE OF STOP & TAIL LIGHTS
 BACK UP ALARM- BOTTOM OF SUB-FRAME
 ALSO SHOWN IN SUB-FRAME ARE 7 WAY AND 4 WAY PLUG-IN
 ADAPTERS FOR A PULL TRAILER



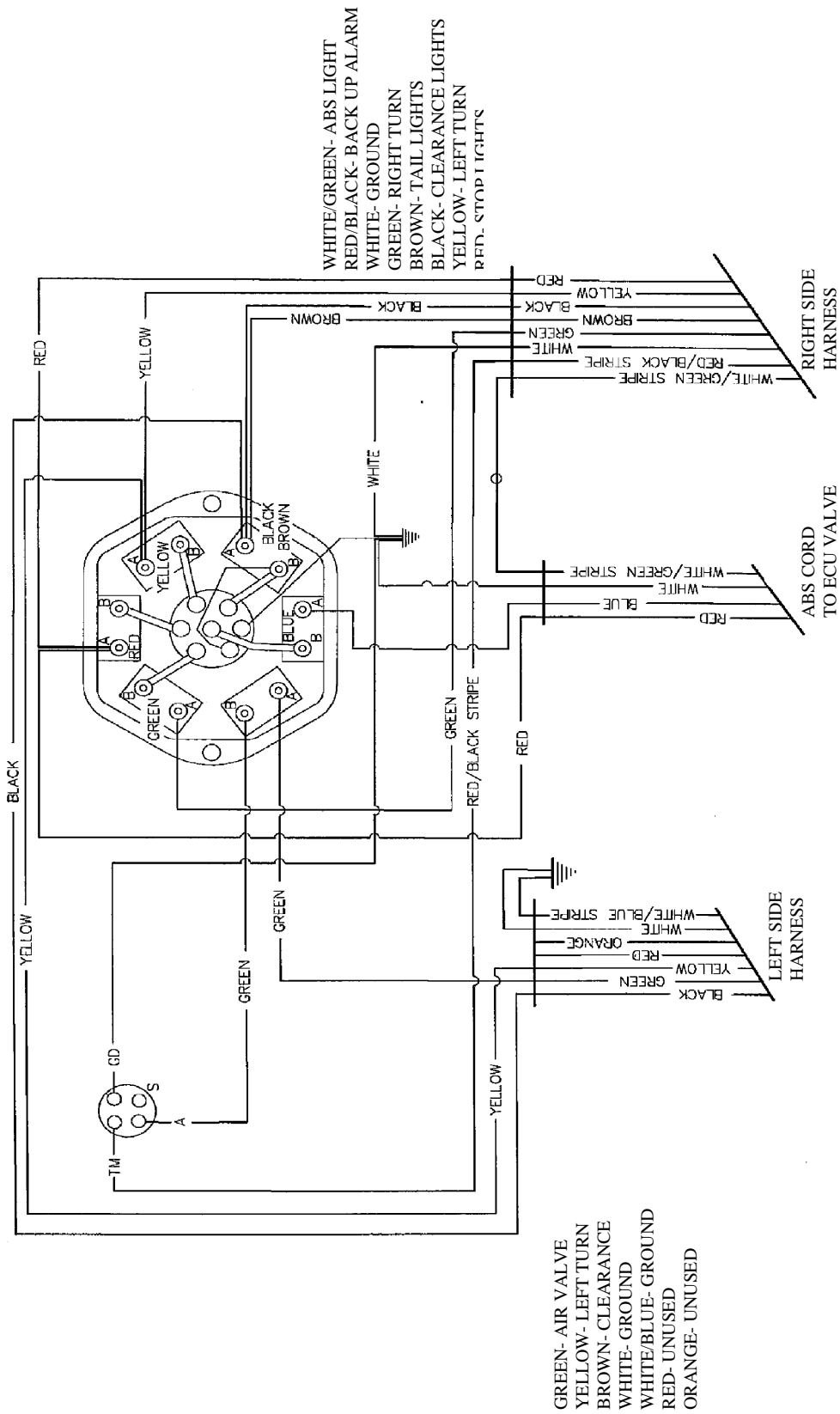
ELECTRICAL SYSTEM PARTS LIST



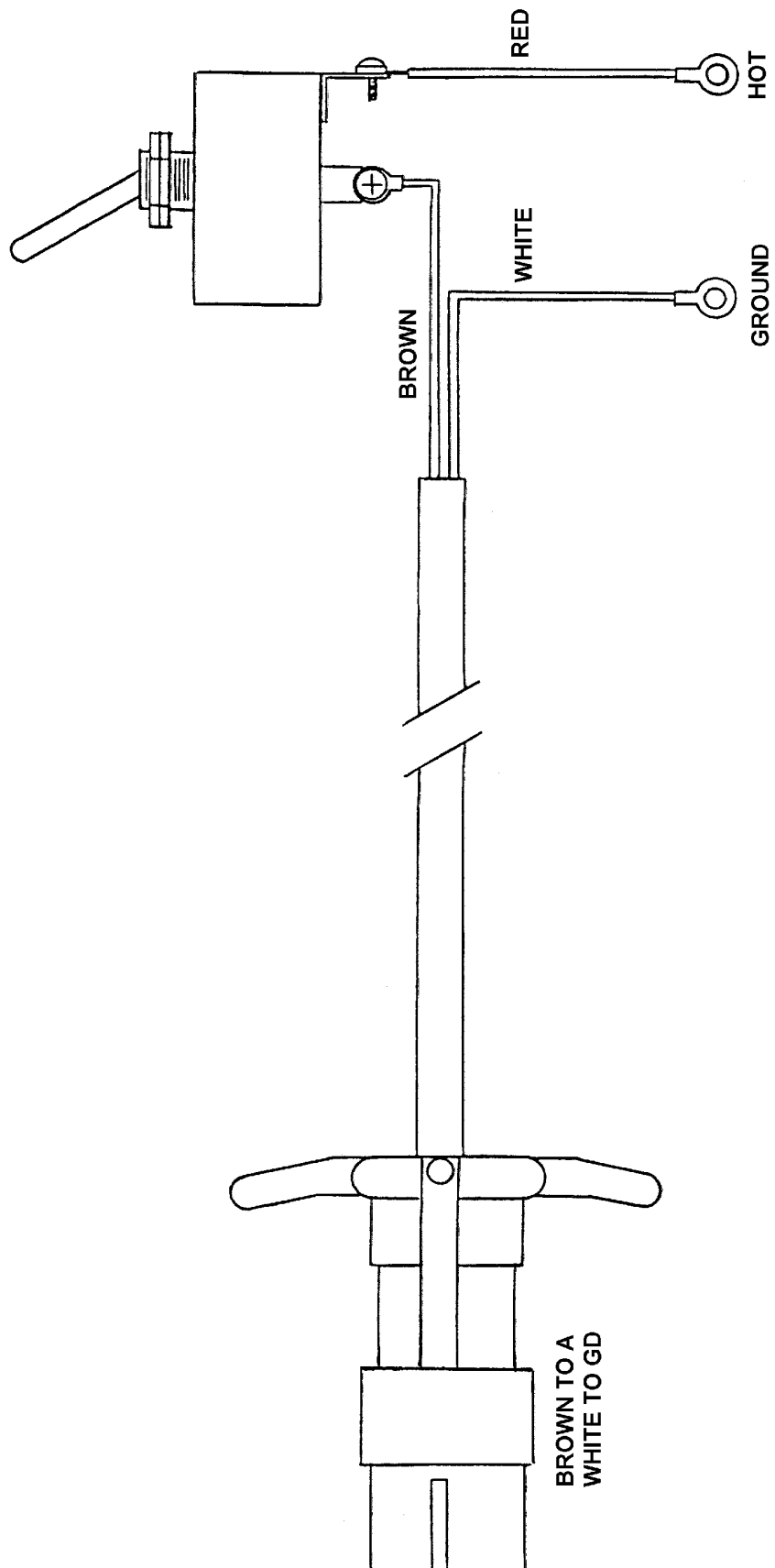
TYPICAL 7-WAY & 4-WAY ELECTRICAL PLUG OUTLETS
ON FRONT OF TRAILERS USING BOX TYPE CROSS
MEMBERS

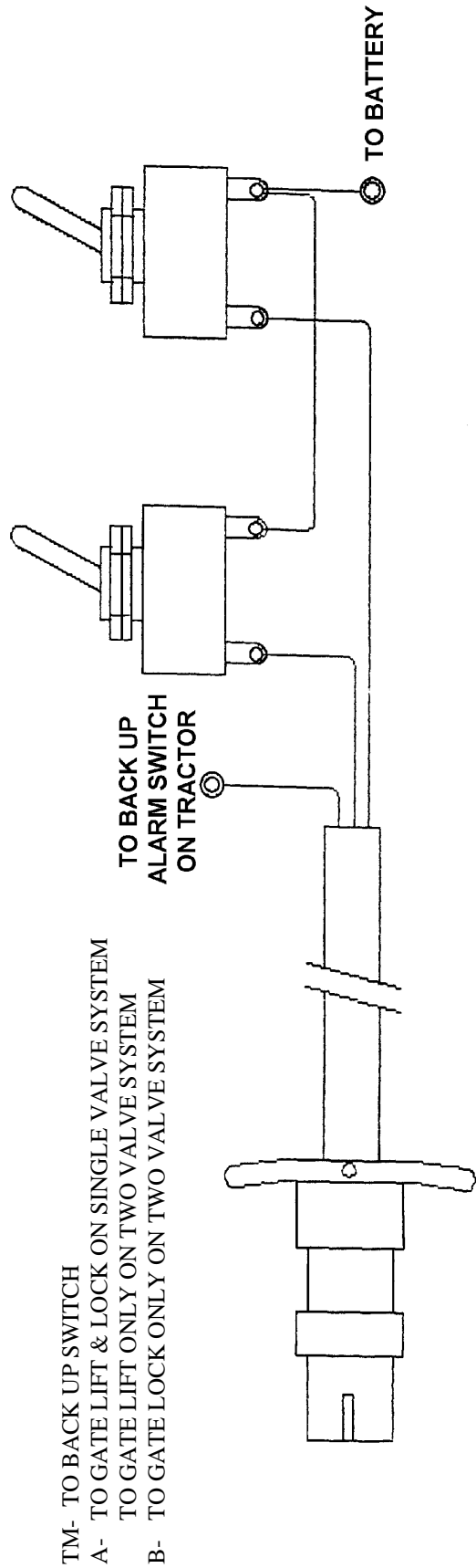


TYPICAL 7-WAY ELECTRICAL PLUG OUTLET ON
FRONT OF TRAILER



ELECTRICAL SHEMATIC FOR SINGLE DUMP VALVE SYSTEM





GATE CONTROL SWITCH

- 1- SELECT A CONVENIENT- EASY TO REACH LOCATION ON DASH OF TOW VEHICLE
- 2- DRILL A 1/2 INCH HOLE AND MOUNT SWITCH (OR SWITCHES) USING JAM NUTS
- 3- RUN WIRING FROM SWITCH TO REAR OF TOW VEHICLE SELECTING AN OUT OF THE WAY ROUTE AWAY FROM EXHAUST AND ANY MOVING PARTS
- 4- FOUR WAY PLUG AND CONTROL CABLE SHOULD BE TIED TO MAIN ELECTRICAL CABLE WITH PLASTIC WIRE TIES
- 5- THE BATTERY WIRE FROM TOGGLE SWITCH SHOULD BE CONNECTED TO A 12 VOLT CIRCUIT ON THE ACCESSORY SIDE OF THE CIRCUIT OR FUSE BOX
- 6- THE TM WIRE FROM THE FOUR WAY PLUG SHOULD BE CONNECTED TO THE BACK UP SWITCH

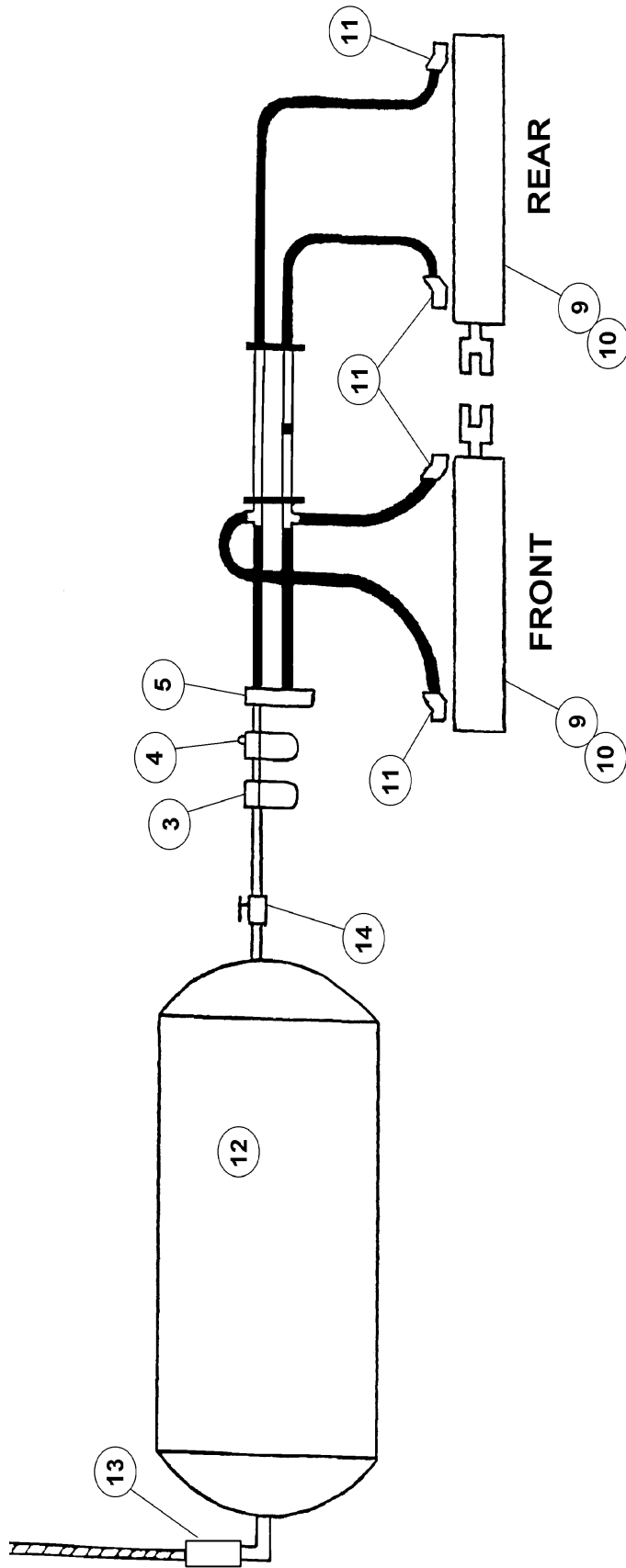
SECTION THREE

GATE SYSTEM

3-18	<u>TYPICAL SINGLE HOPPER AIR GATE SCHEMATIC</u>
3-19	<u>AIR GATE SYSTEM PARTS</u>
3-20	<u>FILTER, LUBRICATOR & VALVE SCHEMATIC</u>
3-21	<u>FILTER DRAWING AND PARTS LIST</u>
3-22	<u>LUBRICATOR DRAWING & PARTS LIST</u>
3-23	<u>PILOT AIR "D" VALVE DRAWING & PARTS LIST</u>
3-24	<u>TASKMASTER VALVE DRAWING & PARTS LIST</u>
3-25	<u>8X30 AIR CYLINDER DRAWING & PARTS LIST</u>
3-26	<u>7X30 & 6X30 AIR CYLINDER DRAWING & PARTS LIST</u>
3-27	<u>ROD SEAL & PISTON SEAL DRAWING & PARTS LIST</u>
3-28	<u>3/8" QUICK RELEASE VALVE DRAWING & PARTS LIST</u>
3-29	<u>1/2" QUICK RELEASE VALVE DRAWING & PARTS LIST</u>
3-30	<u>GATE AIR HOSE ASSEMBLY INFORMATION</u>
3-31	<u>FRONT AIR GATE HOSE ASSEMBLY DRAWING</u>
3-32	<u>REAR AIR GATE HOSE ASSEMBLY DRAWING</u>
3-33	<u>GATE BEARING DRAWING & PARTS LIST</u>
3-34	<u>GATE EQUALIZER ASSEMBLY DRAWING</u>

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TYPICAL AIR GATE SYSTEM FOR SINGLE HOPPER BOTTOM DUMP TRAILER
 (SEE AIR GATE SYSTEM FOR PARTS LIST ON NEXT PAGE FOR PART NUMBERS)

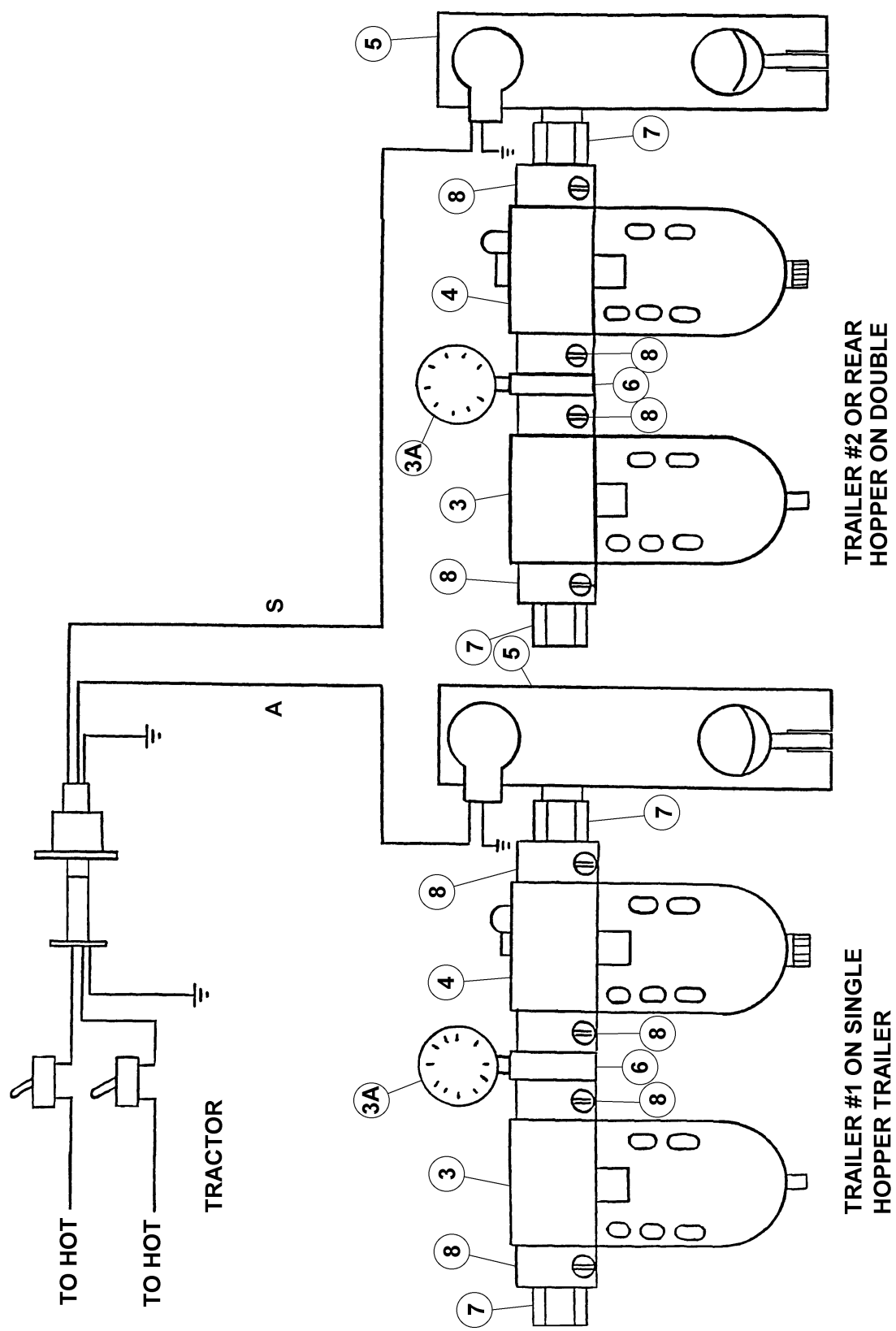
GATE AIR SYSTEM PARTS

(Refer to Page 3-2 for Schematic & Numbers)

ITEM #	PART #	DESCRIPTION
NOT SHOWN	N20415NA	EMERGENCY GLADHAND
NOT SHOWN	N20415PA	SERVICE GLADHAND
3.	FILTER	MODULAR FILTER - COMPLETE (For individual Filter parts see Pg. 3-5)
4.	LUBRICATOR	MODULAR LUBRICATOR-COMplete (For individual Lubricator parts see Pg. 3-6)
5.	40041-0173	PILOT AIR "D" GATE CONTROL VALVE (For individual Pilot Air "D" parts see Pg. 3-7)
5A.	60681-0001	TASKMASTER GATE CONTROL VALVE (For individual Taskmaster parts see Pg. 3-8)

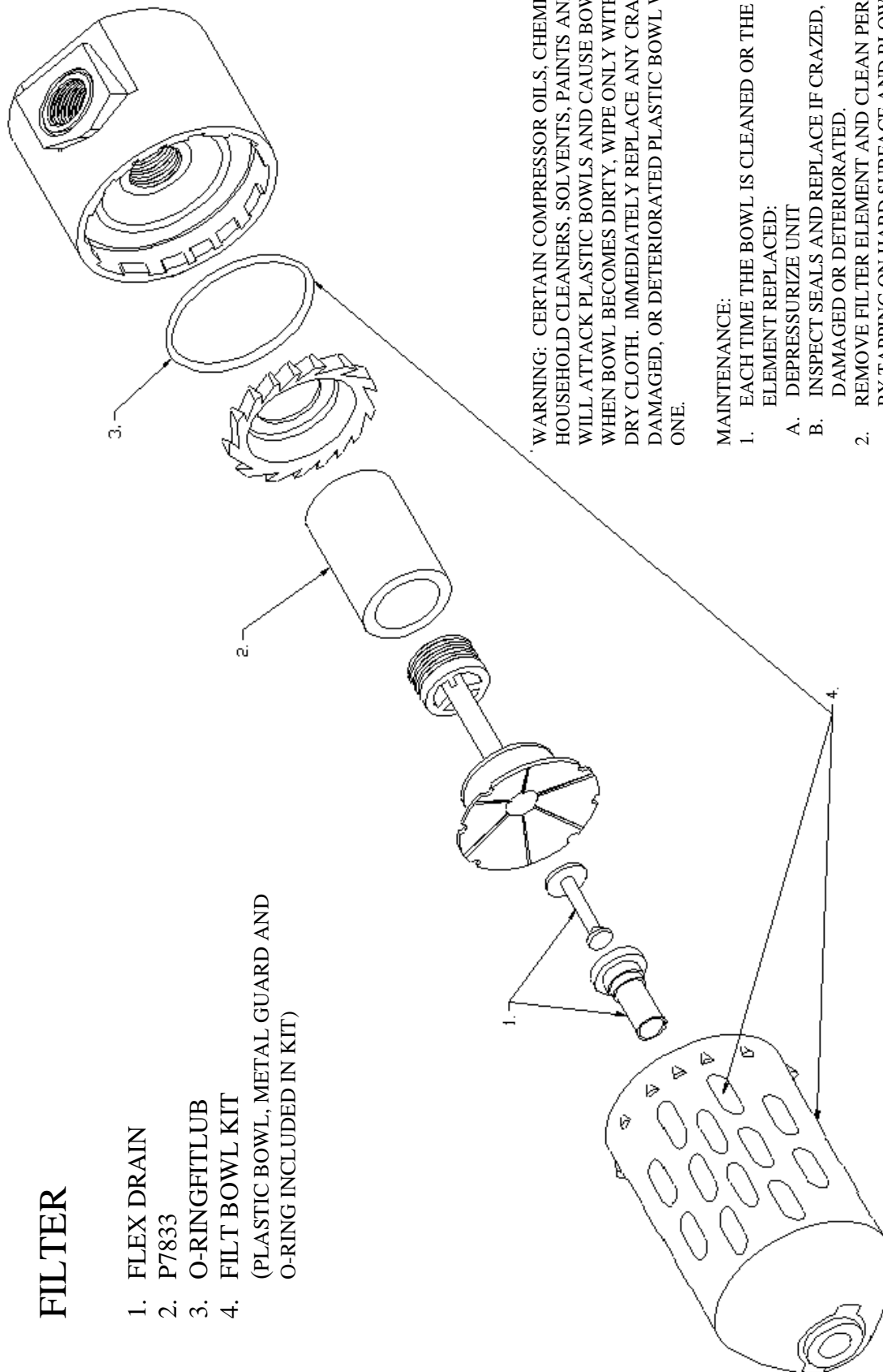
(NOTE: These are the two standard gate control valves used on Ranco Trailers. If your valve is different than what is shown on Page 3-7 or Page 3-8, look in the special options section for your type of valve.)

6.	Refer to Pg. 3-4	MODULAR MANIFOLD BLOCK
7.	Refer to Pg. 3-4	MODULAR CONNECTING END BLOCK PR.
8.	Refer to Pg. 3-4	MODULAR SLEEVE W/O-RING
9.	CYL8X30CP	STANDARD 8 X 30 CYLINDER (For individual 8X30 Cylinder parts see Pg. 3-9)
10.	CYL6X30CP	STANDARD 6 X 30 CYLINDER
		OR
	CYL7X30CP	STANDARD 7 X 30 CYLINDER (For individual 6X30 OR 7X30 Cylinder parts see Pg. 3-10)
11.	52935-31	3/8" QUICK RELEASE VALVE
		OR
	EV30A2	1/2" QUICK RELEASE VALVE (For individual Quick Release Valve parts see Pg. 3-11 or 3-12)
12.	35339	20" x 48" AIR TANK
13.	N15902A	PRESSURE PROTECTION VALVE
14.	0229-21	1/2" BRASS BALL SHUT OFF VALVE
15.	Air Gate Hoses	Refer to pages 3-14, 3-15 & 3-16



FILTER

1. FLEX DRAIN
2. P7833
3. O-RING FITLUB
4. FILT BOWL KIT
(PLASTIC BOWL, METAL GUARD AND
O-RING INCLUDED IN KIT)



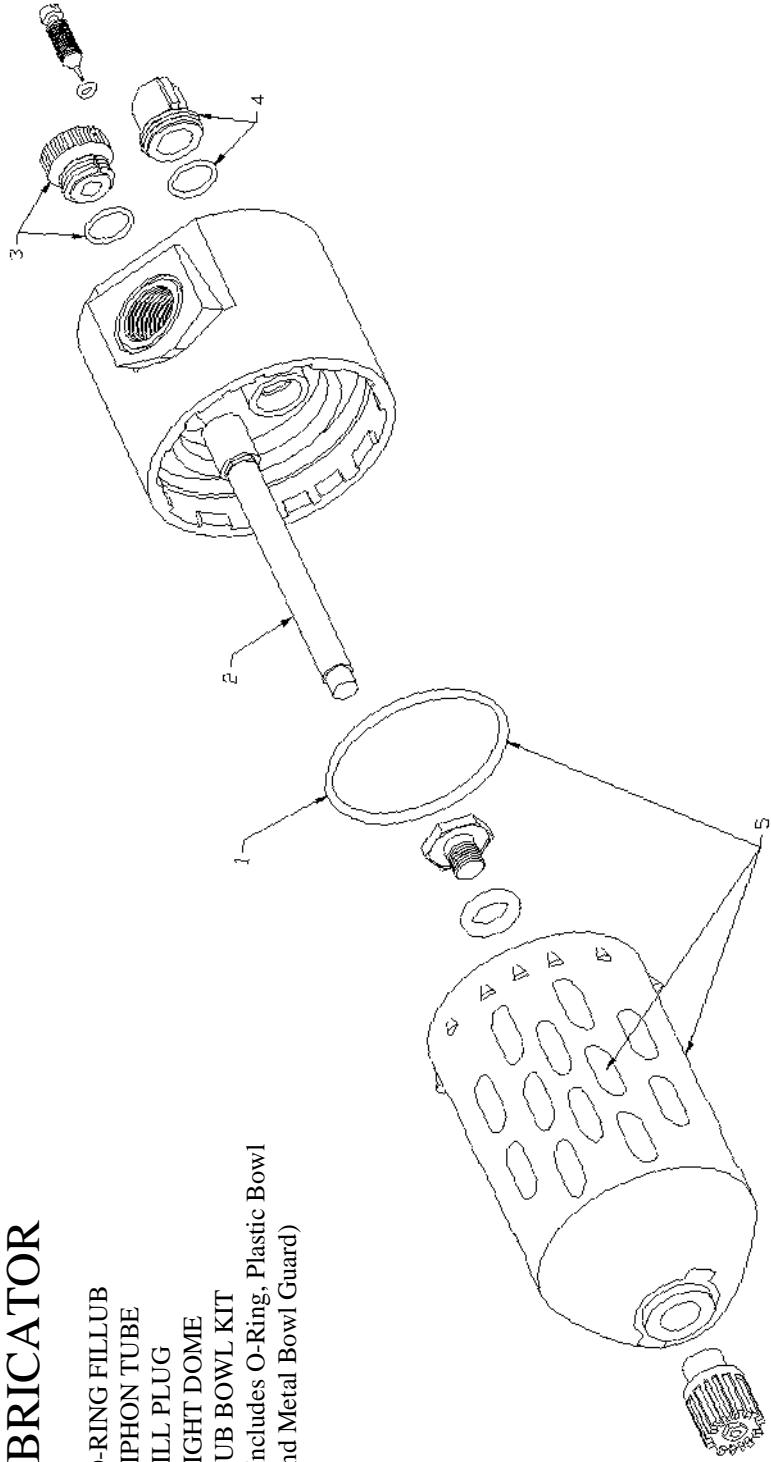
WARNING: CERTAIN COMPRESSOR OILS, CHEMICALS, HOUSEHOLD CLEANERS, SOLVENTS, PAINTS AND FUMES WILL ATTACK PLASTIC BOWLS AND CAUSE BOWL FAILURE. WHEN BOWL BECOMES DIRTY, WIPE ONLY WITH A CLEAN, DRY CLOTH. IMMEDIATELY REPLACE ANY CRACKED, DAMAGED, OR DETERIORATED PLASTIC BOWL WITH A NEW ONE.

MAINTENANCE:

1. EACH TIME THE BOWL IS CLEANED OR THE FILTER ELEMENT REPLACED:
 - A. DEPRESSURIZE UNIT
 - B. INSPECT SEALS AND REPLACE IF CRAZED, CRACKED, DAMAGED OR DETERIORATED.
2. REMOVE FILTER ELEMENT AND CLEAN PERIODICALLY BY TAPPING ON HARD SURFACE AND BLOWING OFF WITH AIR BLOW GUN. REPLACE IF NECESSARY
3. DRAIN BOWL AT LEAST ONCE PER WORK SHIFT
4. BEFORE PLACING UNIT IN SERVICE, BE SURE THAT THE BOWL AND BOWL GUARD ARE INSTALLED AND

LUBRICATOR

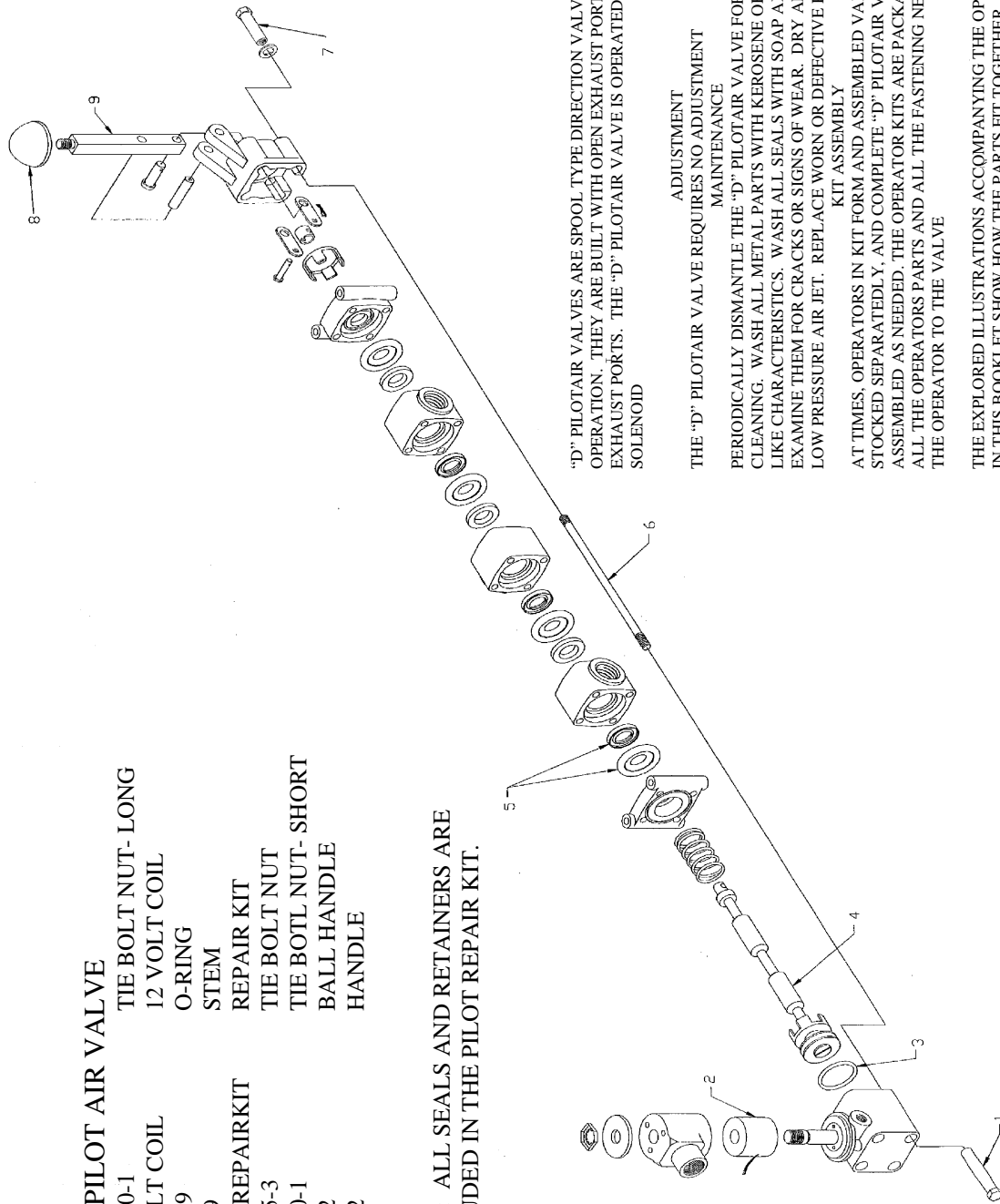
1. O-RING FILL LUB
2. SIPHON TUBE
3. FILL PLUG
4. SIGHT DOME
5. LUB BOWL KIT
(Includes O-Ring, Plastic Bowl
and Metal Bowl Guard)



40041-0173 PILOT AIR VALVE

- | | | |
|----|----------------|---------------------|
| 1. | P50570-1 | TIE BOLT NUT- LONG |
| 2. | 12 VOLT COIL | |
| 3. | 536-579 | O-RING |
| 4. | P50569 | STEM |
| 5. | PILOTREPAIRKIT | REPAIR KIT |
| 6. | P49985-3 | TIE BOLT NUT |
| 7. | P50570-1 | TIE BOLT NUT- SHORT |
| 8. | P57662 | BALL HANDLE |
| 9. | P50402 | HANDLE |

NOTE: ALL SEALS AND RETAINERS ARE INCLUDED IN THE PILOT REPAIR KIT.



"D" PILOTAIR VALVES ARE SPOOL TYPE DIRECTION VALVES WITH TWO-WAY OPERATION. THEY ARE BUILT WITH OPEN EXHAUST PORTS AND WITH TAPPED EXHAUST PORTS. THE "D" PILOTAIR VALVE IS OPERATED BY LEVER, OR SOLENOID

ADJUSTMENT
THE "D" PILOTAIR VALVE REQUIRES NO ADJUSTMENT
MAINTENANCE

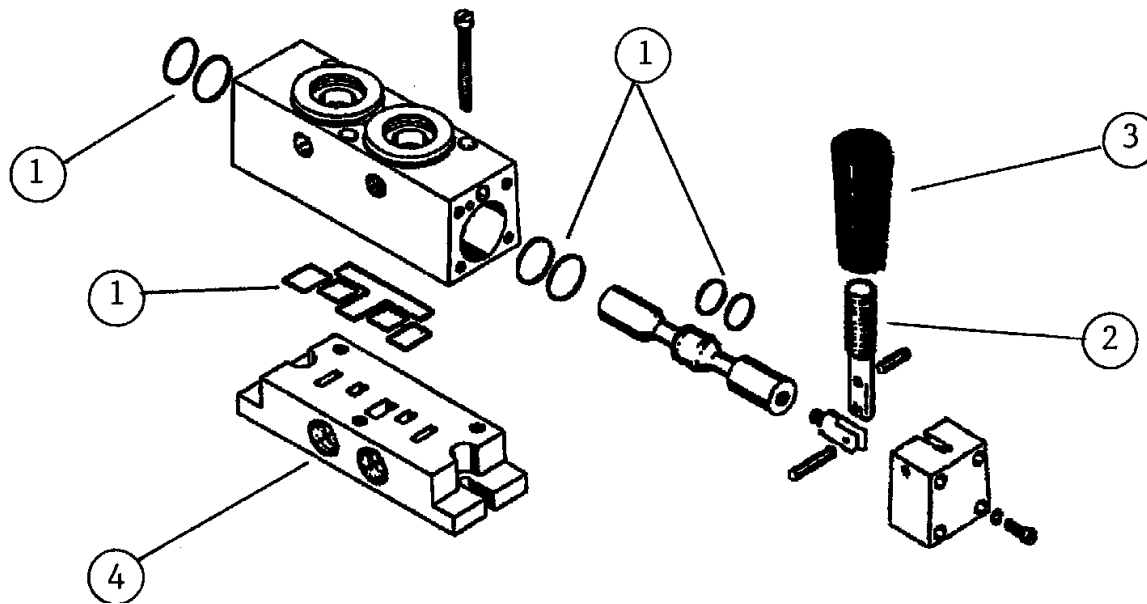
PERIODICALLY DISMANTLE THE "D" PILOTAIR VALVE FOR INSPECTION AND CLEANING. WASH ALL METAL PARTS WITH KEROSENE OF A SOLVENT WITH LIKE CHARACTERISTICS. WASH ALL SEALS WITH SOAP AND WATER AND EXAMINE THEM FOR CRACKS OR SIGNS OF WEAR. DRY ALL PARTS WITH A LOW PRESSURE AIR JET. REPLACE WORN OR DEFECTIVE PARTS.

KIT ASSEMBLY

AT TIMES, OPERATORS IN KIT FORM AND ASSEMBLED VALVE PORTIONS ARE STOCKED SEPARATELY, AND COMPLETE "D" PILOTAIR VALVE ARE ASSEMBLED AS NEEDED. THE OPERATOR KITS ARE PACKAGES CONTAINING ALL THE OPERATORS PARTS AND ALL THE FASTENING NEEDED TO ASSEMBLE THE OPERATOR TO THE VALVE

THE EXPLORED ILLUSTRATIONS ACCOMPANYING THE OPERATORS PARTS LIST IN THIS BOOKLET SHOW HOW THE PARTS FIT TOGETHER

TO ASSEMBLY A COMPLETE VALVE FROM THE KITS, REMOVE THE STEM FROM THE VALVE PORTION. ASSEMBLE THE OPERATOR PORTION AND CONNECT THE STEM TO IT. COVER THE STEM WITH LIGHT OIL. REMOVE THE TIE NUTS AND ALWAYS ASSEMBLE THE SHORT THREADED END OF THE TIE ROD FIRST TO USE THE FULL THREAD. THIS WILL OBTAIN FULL THREAD ENGAGEMENT ON BOTH ENDS WHEN THE LONG THREADED END IS ASSEMBLED LAST. INSERT THE STEM IN THE VALVE PORTION AND TIGHTEN THE BOLTS EVENLY TOGETHER



TASKMASTER VALVE

PART # 60681-0001

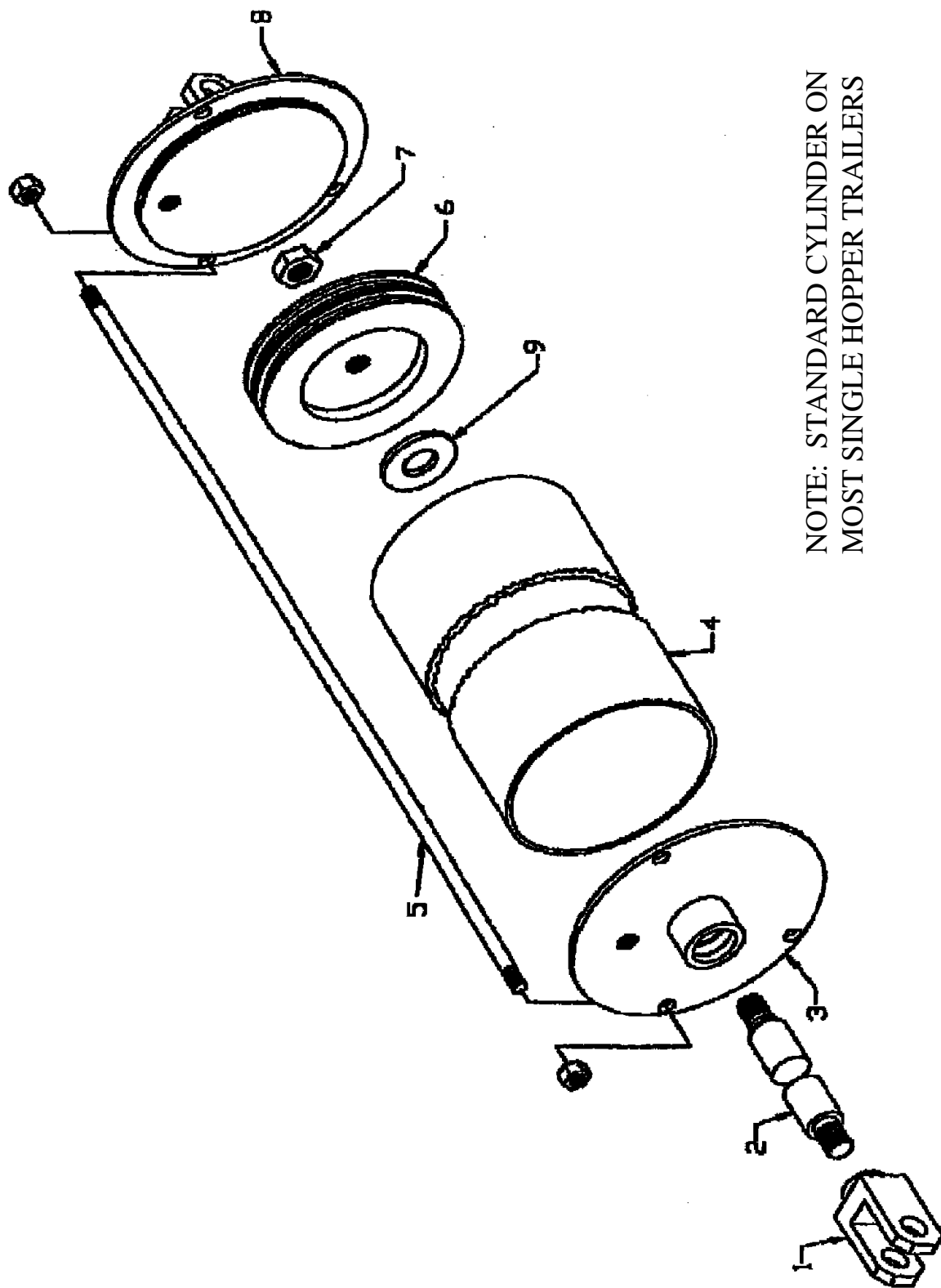
ITEM	PART	DESCRIPTION
1.	P60741	O-RING & SUB BASE GASKET KITS
2.	P62110	LEVER ASSEMBLY
3.	P62111	KNOB ASSEMBLY
4.	P59397-1	SUB-BASE
5.	12VOLT COIL	12 VOLT COIL ASSEMBLY

THIS TASKMASTER VALVE IS A UNIQUE SPOOL TYPE, FOUR-WAY DIRECTIONAL CONTROL VALVE WITH THREE REMOTE OPERATORS- A SOLENOID, A HANDLE, AND A BLEEDER PILOT. THE SOLENOID PERMITS REMOTE OPERATION OF THE VALVE AND THE HANDLE AND BLEEDER PILOT OPERATORS PERMIT OPERATION AR THE VALVE SYSTEM

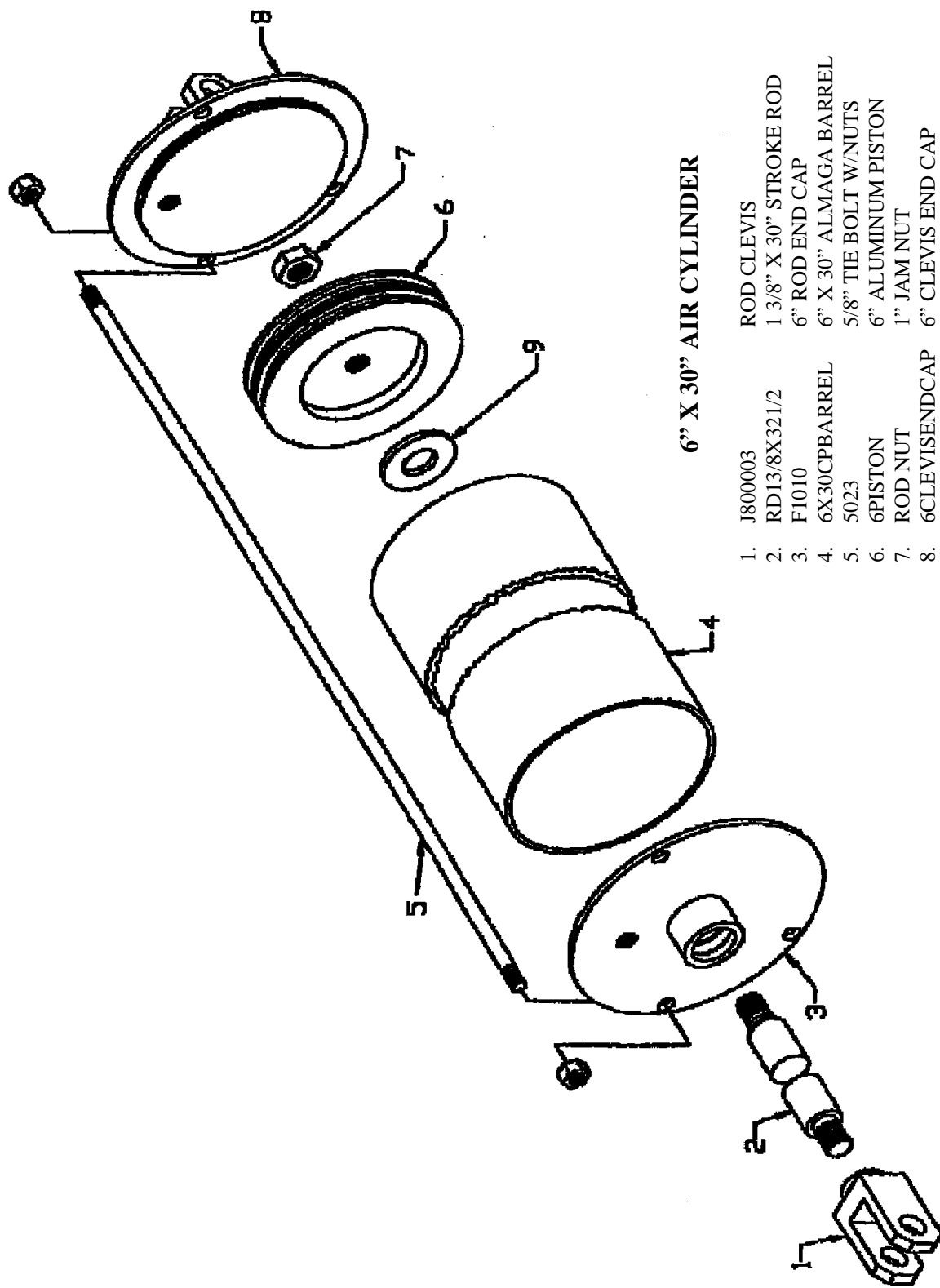
OPERATION

TO OPERATE THE VALVE REMOTELY, ENERGIZE THE SOLENOID TO ACTIVATE THE CYLINDER. THE ENERGIZED SOLENOID, IN ADDITION TO PROVIDING PILOT PRESSURE TO OPERATE THE SPOOL, ALSO PRESSURIZES THE SMALL AREA BLEEDER PILOT. WHEN THE SOLENOID IS DEENERGIZED, AIR IS VENTED FROM THE MAIN PILOT, BUT IS PREVENTED FROM BEING VENTED FROM THE SMALL AREA BLEEDER PILOT BY THE BALL CHECK. THE AIR IN THE BLEEDER PILOT ACTS AS A RETURN SPRING TO RETURN THE SPOOL TO ITS ORIGINAL POSITION. THIS AIR MAY EVENTUALLY LEAK OFF.

MANUAL OPERATION CAN BE OBTAINED ONLY WITH A DEENERGIZED SOLENOID. THE BLEEDER PILOT IS USED TO VENT ANY AIR WHICH HAS NOT LEAKED OFF AFTER A REMOTE OPERATION. AFTER THE SOLENOID HAS BEEN DEENERGIZED AND THE BLEEDER PILOT HAS BEEN VENTED, THE MANUAL OPERATOR CAN THEN BE MOVED IN EITHER DIRECTION TO CONTROL THE CYLINDER.

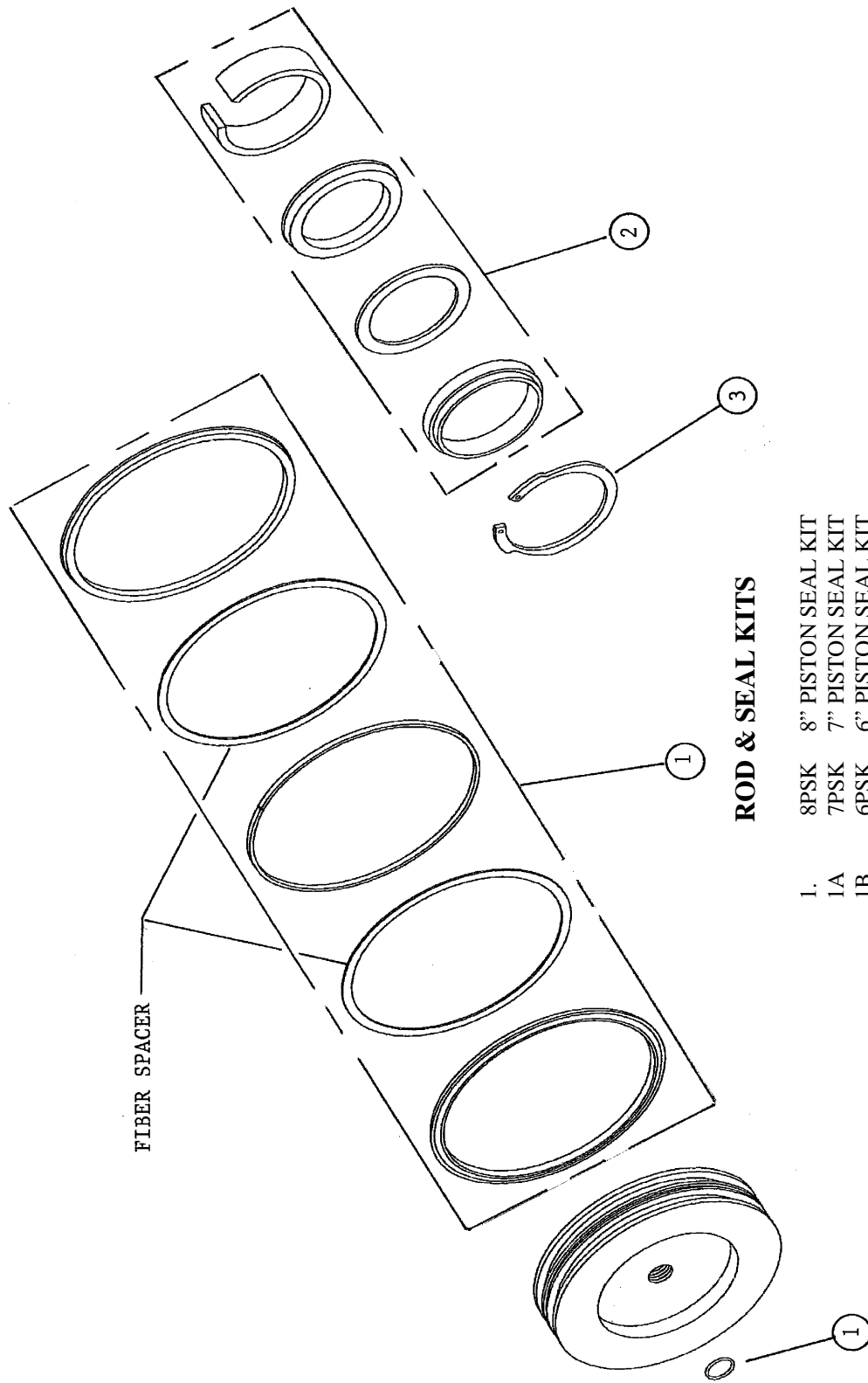


NOTE: STANDARD CYLINDER ON
MOST SINGLE HOPPER TRAILERS



6" X 30" AIR CYLINDER

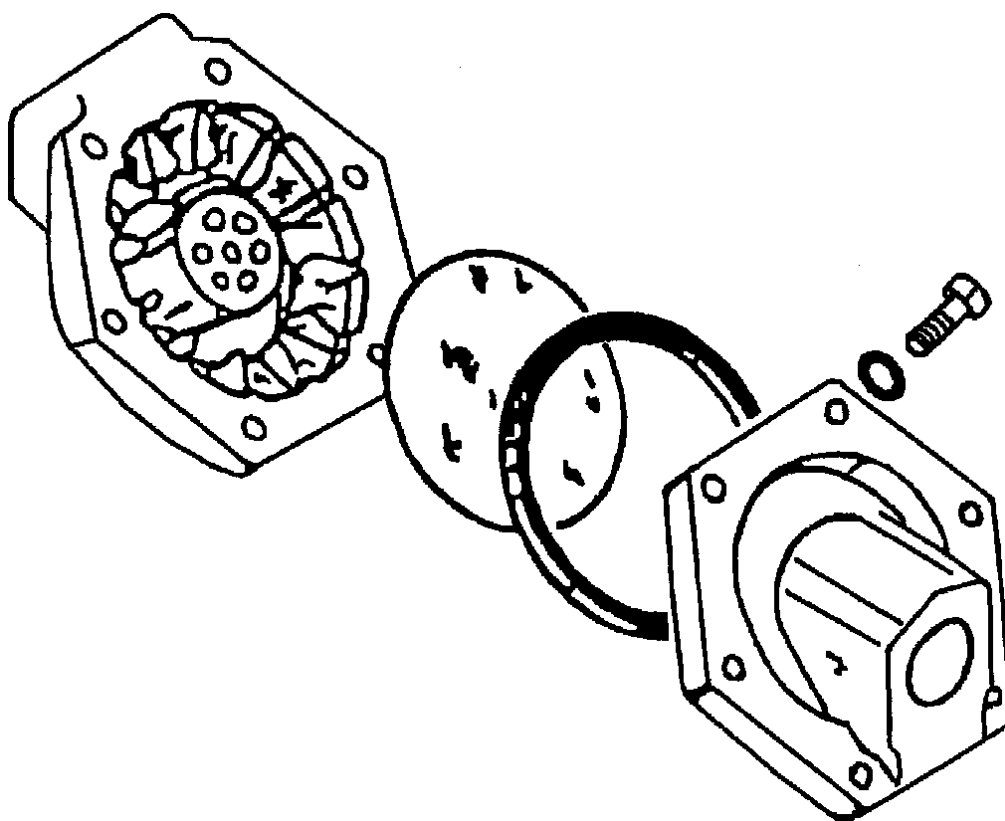
1. J800003	ROD CLEVIS
2. RD13/8X321/2	1 3/8" X 30" STROKE ROD
3. F1010	6" ROD END CAP
4. 6X30CPBARREL	6" X 30" ALMAGA BARREL
5. 5023	5/8" TIE BOLT W/NUTS
6. 6PISTON	6" ALUMINUM PISTON
7. ROD NUT	1" JAM NUT
8. 6CLEVISENDCAP	6" CLEVIS END CAP
9. PISTONCUSHION	PISTON DONUT CUSHION



ROD & SEAL KITS

8PSK	8" PISTON SEAL KIT
7PSK	7" PISTON SEAL KIT
6PSK	6" PISTON SEAL KIT
5PSK	5" PISTON SEAL KIT
F1002	1 3/8" ROD SEAL KIT
5012	1 1/4" ROD SEAL KIT
	1 1/4" SNAPRING
	1 3/8" SNAPRING

- 1.
- 1A
- 1B
- 1C
- 2
- 2A
- 3
- 3A



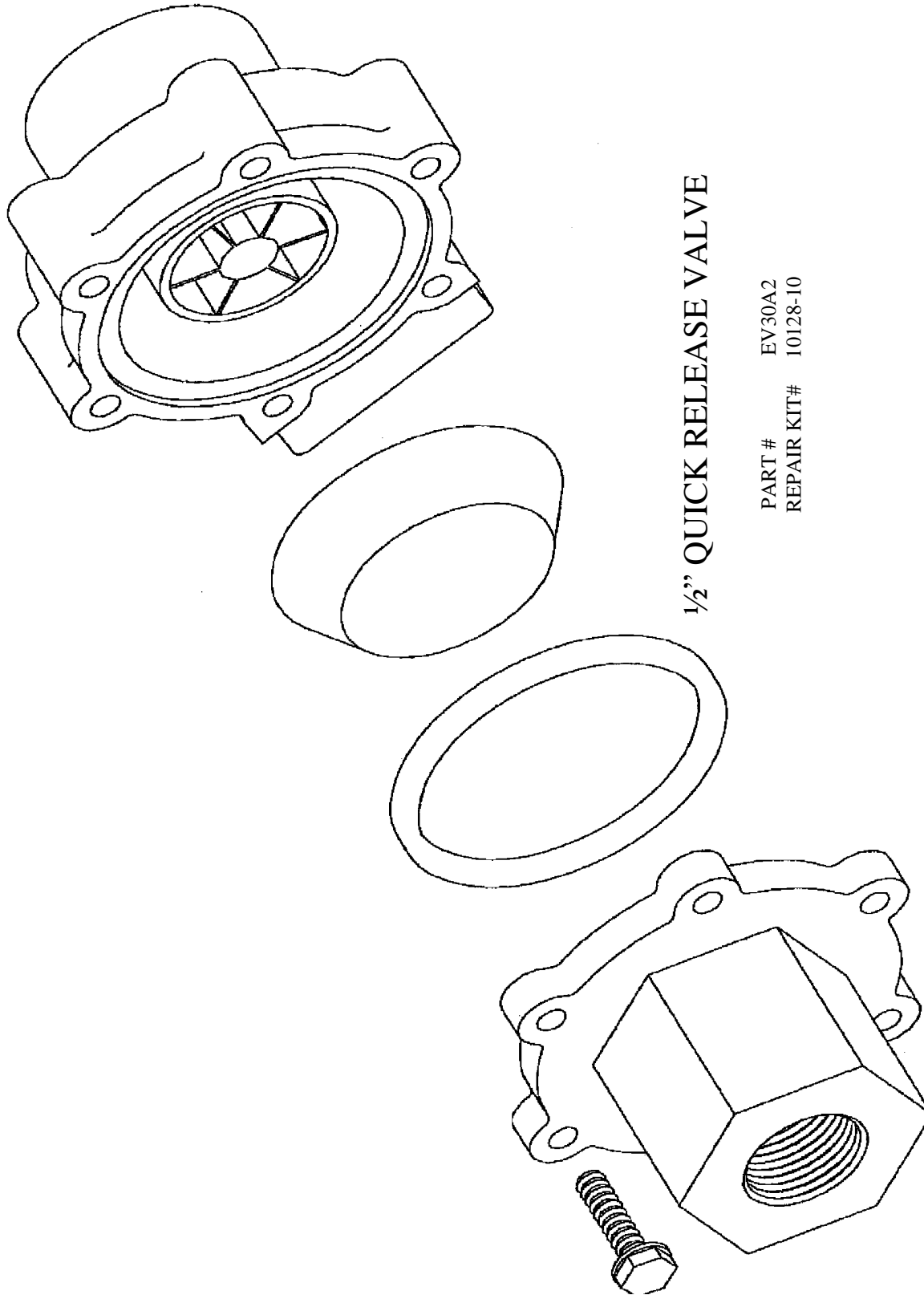
3/8" QUICK RELEASE VALVE

PART # 3/8QRVALVE
REPAIR KIT PART # 3/8QRREPRKIT

THE QUICK RELEASE VALVE SPEEDS THE EXHAUSTING OF YOUR AIR CYLINDERS. AIR PRESSURE IS VENTED CLOSE TO THE OPERATED DEVICE INSTEAD OF BACK THROUGH THE CONTROL VALVE

OPERATION

THE QUICK RELEASE VALVE HAS 3 PORTS AS SHOWN IN THE ASSEMBLY VIEW. AIR PRESSURE ENTERING THE IN PORT FORCES THE DIAPHRAGM TO SEAL THE EXHAUST PORT AND OPEN A DIRECT PASSAGE BETWEEN THE IN AND OUT CYLINDER PORT. WHEN AIR PRESSURE AT THE IN PORT IS REDUCED, AND THE PRESSURE IS SLIGHTLY GREATER AT THE OUT PORT, THE DIAPHRAGM IS FORCED AGAINST THE IN PORT. WITH THE IN PORT SEALED OFF, A DIRECT PASSAGE IS OPENED BETWEEN THE OUT PORT AND THE EXHAUST PORT, ALLOWING THE OPERATED DEVICE TO VENT QUICKLY



1/2" QUICK RELEASE VALVE

PART # EV30A2
REPAIR KIT# 10128-10

HOSE ASSEMBLIES FOR AIR GATES

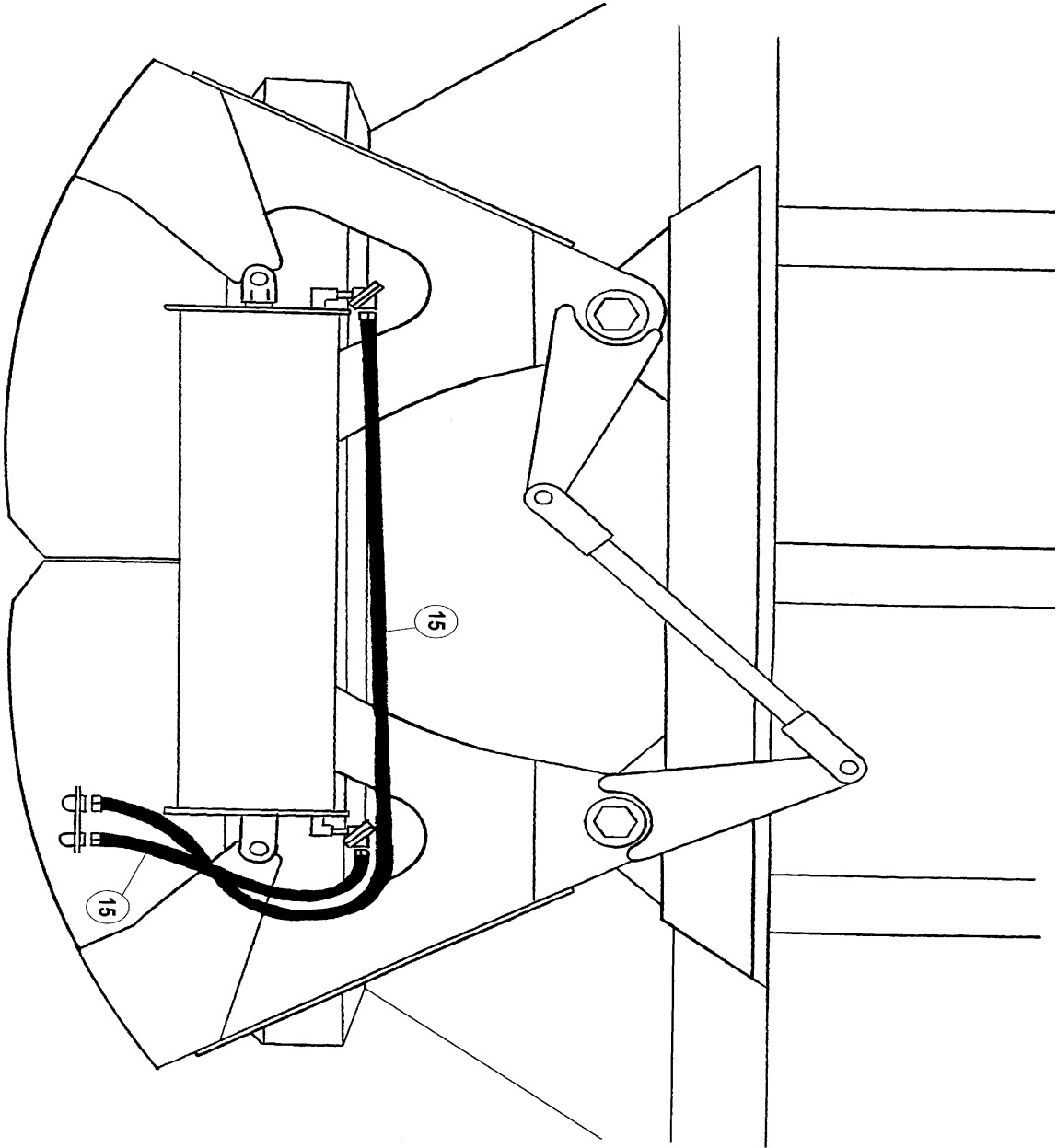
EACH HOSE AND FITTINGS ASSEMBLY IS A DIFFERENT LENGTH DEPENDING ON THE TYPE OF TRAILER, SIZE OF GATE AND CYLINDER. IT ALSO DEPENDS ON IF THE HOSE IS FOR THE FRONT OR REAR OF THE GATE.

PLEASE REFER TO THE DRAWINGS OF THE HOSE ASSEMBLIES ON THE NEXT TWO PAGES AND WHEN ORDERING HOSES HAVE OUR VEHICLE IDENTIFICATION NUMBER (VIN#) AVAILABLE TO GIVE TO THE PARTS DEPARTMENT.

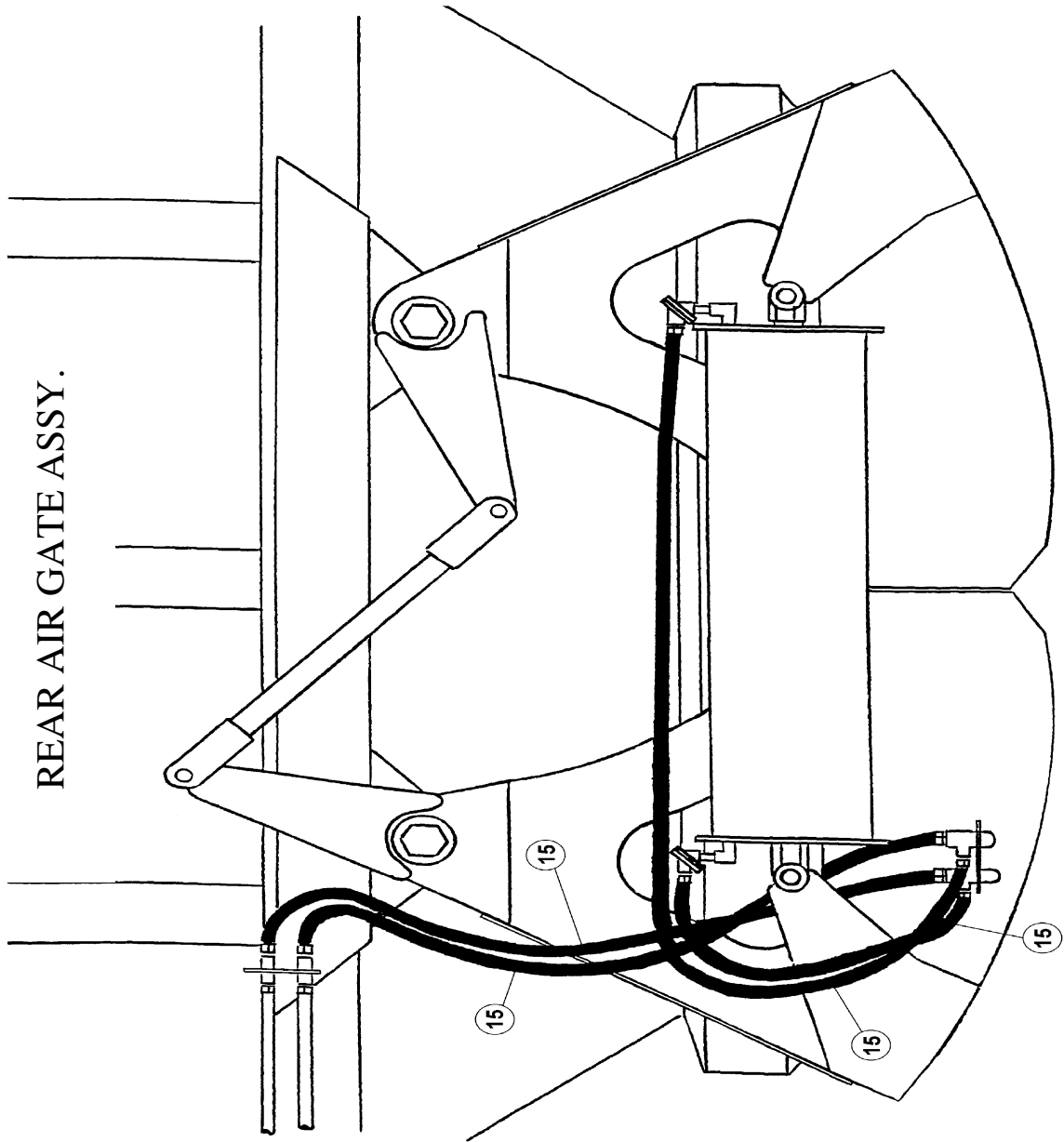
UTILIZING THE VIN# AND YOUR DESCRIPTION OF THE HOSE (FRONT OR BACK OF GATE) THE PARTS DEPARTMENT WILL BE ABLE TO SEND YOU THE PROPER HOSE ASSEMBLY.



FRONT AIR GATE HOSE ASSEMBLY



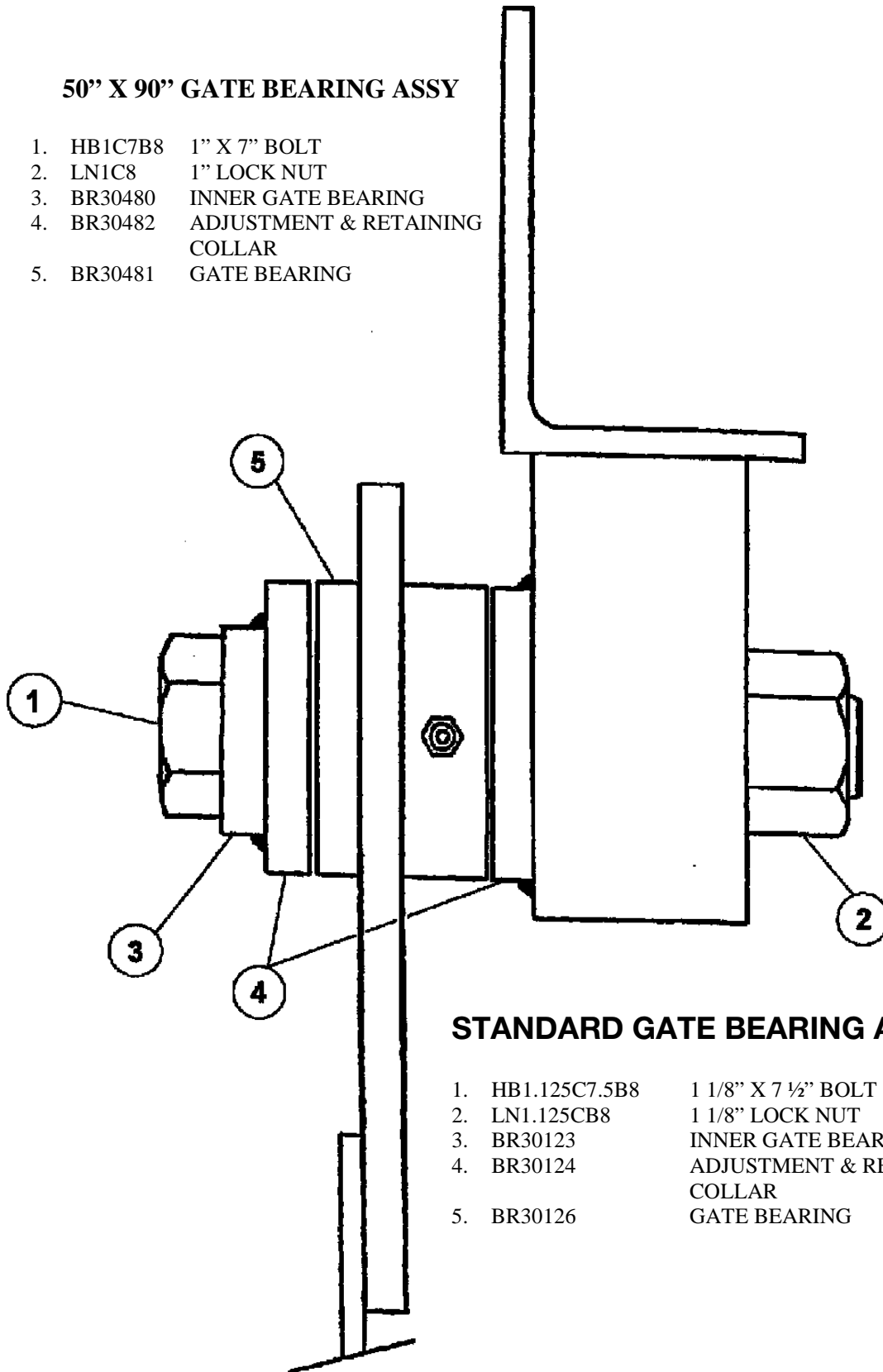
REAR AIR GATE ASSY.



GATE BEARING DRAWING

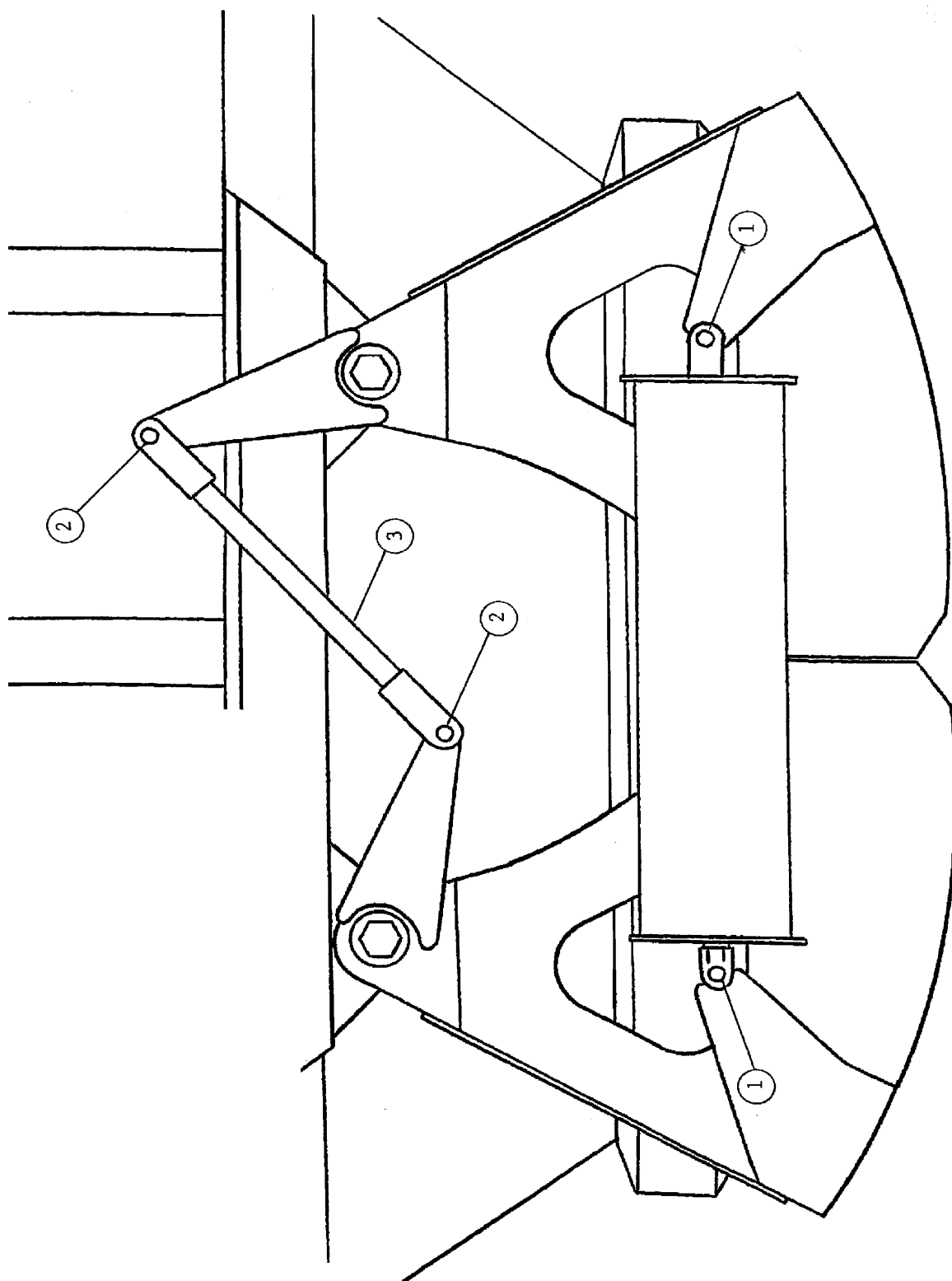
50" X 90" GATE BEARING ASSY

1. HB1C7B8 1" X 7" BOLT
2. LN1C8 1" LOCK NUT
3. BR30480 INNER GATE BEARING
4. BR30482 ADJUSTMENT & RETAINING COLLAR
5. BR30481 GATE BEARING



STANDARD GATE BEARING ASSY

1. HB1.125C7.5B8 1 1/8" X 7 1/2" BOLT
2. LN1.125CB8 1 1/8" LOCK NUT
3. BR30123 INNER GATE BEARING
4. BR30124 ADJUSTMENT & RETAINING COLLAR
5. BR30126 GATE BEARING





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SECTION FOUR

AIR BRAKE SYSTEM

4-5	<u>ABS BRAKE SYSTEM INFORMATION SHEET</u>
4-6	<u>STANDARD TANDEM AXLE ABS BRAKE SYSTEM</u>
4-7	<u>STANDARD TRI-AXLE ABS BRAKE SYSTEM</u>
4-8	BLANK

RANCO ABS BRAKE SYSTEM INFORMATION

RANCO USES MERITOR WABCO EASY-STOP TRAILER ABS SYSTEMS ON ALL OF ITS STANDARD TRAILERS.

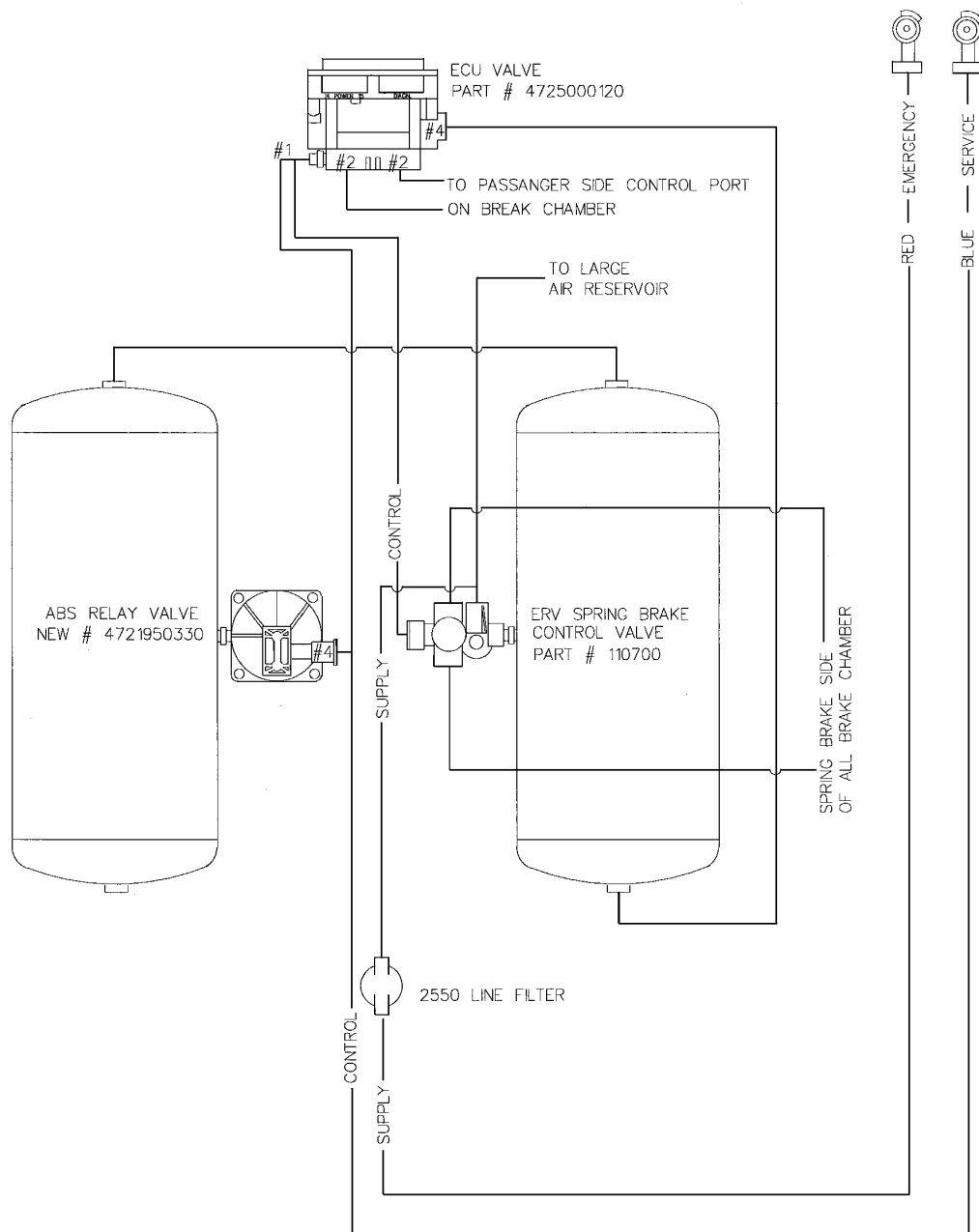
**PLEASE REFER TO THE DRAWINGS OF THE STANDARD SETUP FOR TANDEM AND TRI-AXLE
SYSTEMS ON THE FOLLOWING PAGES.**

DRAWINGS FOR OTHER TYPES OF TRAILERS WILL BE FOUND IN THE SPECIAL OPTIONS SECTION.

**ABS BRAKE SYSTEMS UNDERGO A NUMBER OF CHANGES, THEREFORE, PLEASE HAVE YOUR
TRAILER VIN NUMBER AVAILABLE WHEN YOU CALL INTO THE PARTS
DEPARTMENT.**

**THAT IS THE ONLY WAY WE CAN INSURE THAT YOU RECEIVE THE PROPER PARTS FOR THE
BRAKE SYSTEM INSTALLED ON YOUR TRAILER.**

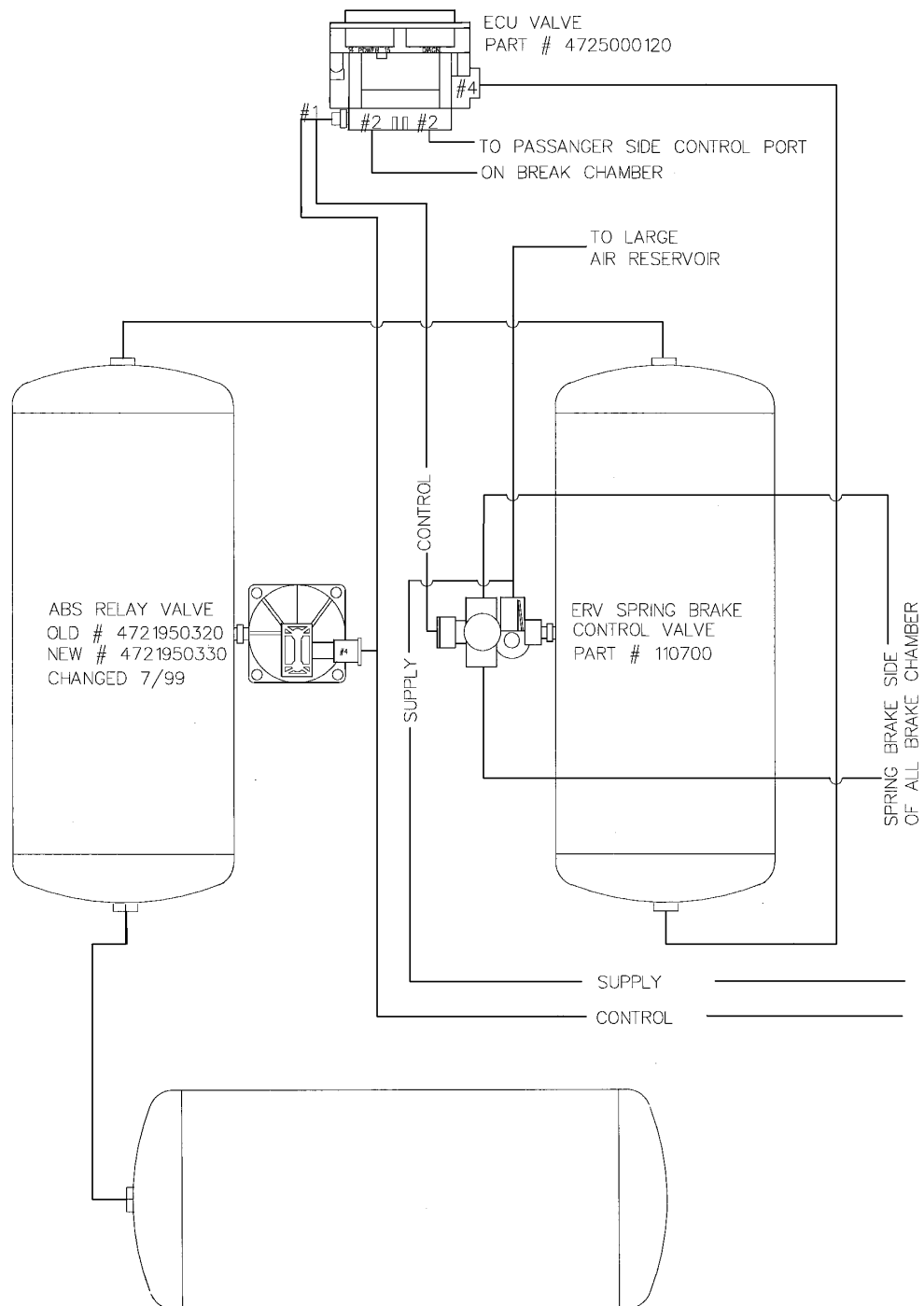
TANDEM AXLE SUSPENSION AIR SYSTEM



**AIR BRAKE SYSTEM TYPICALLY USED ON
TANDEM AXLE TRAILERS**

**H-900 SINGLE POINT SUSPENSION
AND H-9700 FOUR SPRING SUSPENSIONS**

AIR SYSTEM



AIR BRAKE SYSTEM FOR TRI-AXLE TRAILERS

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SECTION FIVE

SUSPENSION SYSTEM

5-5	<u>AXLE SYSTEM INFORMATION SHEET</u>
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5-7	<u>TYPICAL AXLE DRAWING AND PARTS IDENTIFICATION</u>
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RANCO AXLE SYSTEM INFORMATION

RANCO USES AXLES MANUFACTURED BY SEVERAL DIFFERENT COMPANIES ON OUR STANDARD TRAILERS.

ALTHOUGH MOST OF THE AXLES ARE ALIKE IN SOME MANNER, THE PARTS ARE OFTEN DIFFERENT.

RANCO KEEPS A RECORD OF EXACTLY WHAT BRAND OF AXLE IS PUT UNDER EACH TRAILER.

IN ORDER TO ORDER THE CORRECT PARTS FOR YOUR AXLE, REFER TO THE DRAWING ON THE FOLLOWING PAGE TO IDENTIFY THE AXLE PART YOU NEED.

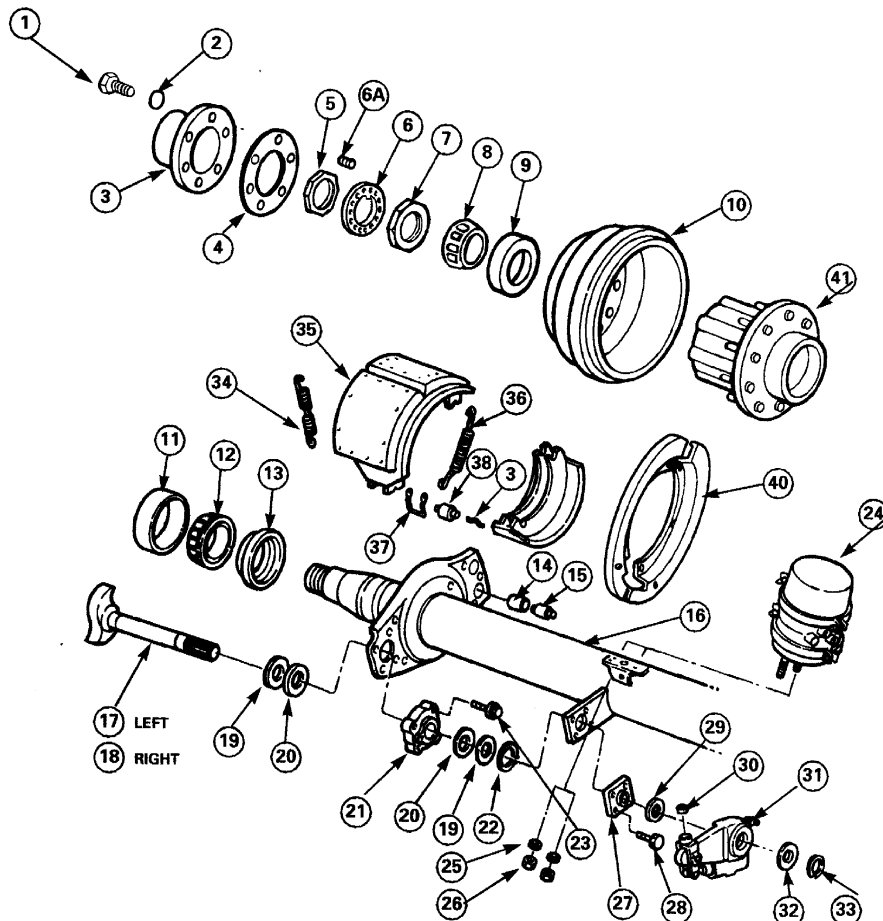
USING THE PART DESCRIPTION AND YOUR TRAILER VIN NUMBER, RANCO WILL BE ABLE TO IDENTIFY THE CORRECT PART FOR YOUR TRAILER AXLE.

BE SURE TO HAVE YOUR VEHICLE IDENTIFICATION NUMBER (VIN #) WHEN TRYING TO ORDER PARTS.

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TABLE FOR FIGURE 5-3
TYPICAL 16.5" X 7" Q SERIES BRAKE INSTALLATION

Item	Description	Item	Description	Item	Description
1	Capscrew	14	Bushing Anchor Pin	28	Capscrew
2	Lockwasher	15	Pin Anchor	29	Slack Adjuster Washer
3	Hubcap	16	Beam Axle	30	Slack Adjuster Locknut
4	Gasket	17	Camshaft (left)	31	Automatic Slack Adjuster
5	Wheel Bearing Jam Nut	18	Camshaft (right)	32	Slack Adjuster Washer
6	Lockwasher	19	Washer	33	Slack Adjuster Snap Ring
6A	Setscrew	20	Seal	34	Brake Shoe Return Spring
7	Wheel Bearing Adjusting Nut	21	Bushing	35	Brake Shoe and Lining Assy.
8	Outer Wheel Bearing Cone	22	Snap Ring	36	Brake Shoe Retaining Spring
9	Outer Bearing Cup	23	Capscrew	37	Brake Shoe Roller Retainer
10	Brake Drum	24	Air Chamber	38	Brake Shoe Roller
11	Inner Bearing Cup	25	Lockwasher	39	Shoe Return Spring Pin
12	Inner Bearing Cone	26	Locknut	40	Dust Shield
13	Wheel Bearing Nut	27	Camshaft Bushing Assembly	41	Hub



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SECTION SIX

SUSPENSION SYSTEM

6-9	<u>SUSPENSION SYSTEM INFORMATION SHEET</u>
6-10	<u>SINGLE POINT H-900 SUSPENSION DRAWING</u>
6-11	<u>SINGLE POINT H-900 SUSPENSION PARTS LIST</u>
6-12	<u>FOUR SPRING H-9700 SUSPENSION DRAWING</u>
6-13	<u>FOUR SPRING H-9700 SUSPENSION PARTS LIST</u>
6-14	<u>TRI-AXLE TRANSPRO MOD 88 SUSPENSION DRAWING</u>
6-15	<u>TRI-AXLE TRANSPRO MOD 88 SUSPENSION PARTS LIST</u>
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RANCO SUSPENSION SYSTEM INFORMATION

RANCO USES SUSPENSIONS MANUFACTURED BY SEVERAL DIFFERENT COMPANIES ON OUR STANDARD TRAILERS.

ON MOST TANDEM AXLE TRAILERS WE USE A SINGLE POINT SUSPENSION, MODEL H-900 OR A FOUR SPRING SUSPENSION, MODEL H9700. ON MOST TRI-AXLE TRAILERS WE USE A TRANSPOMODEL 88 SUSPENSION.

RANCO KEEPS A RECORD OF EXACTLY WHAT BRAND AND TYPE OF SUSPENSION IS PUT UNDER EACH TRAILER.

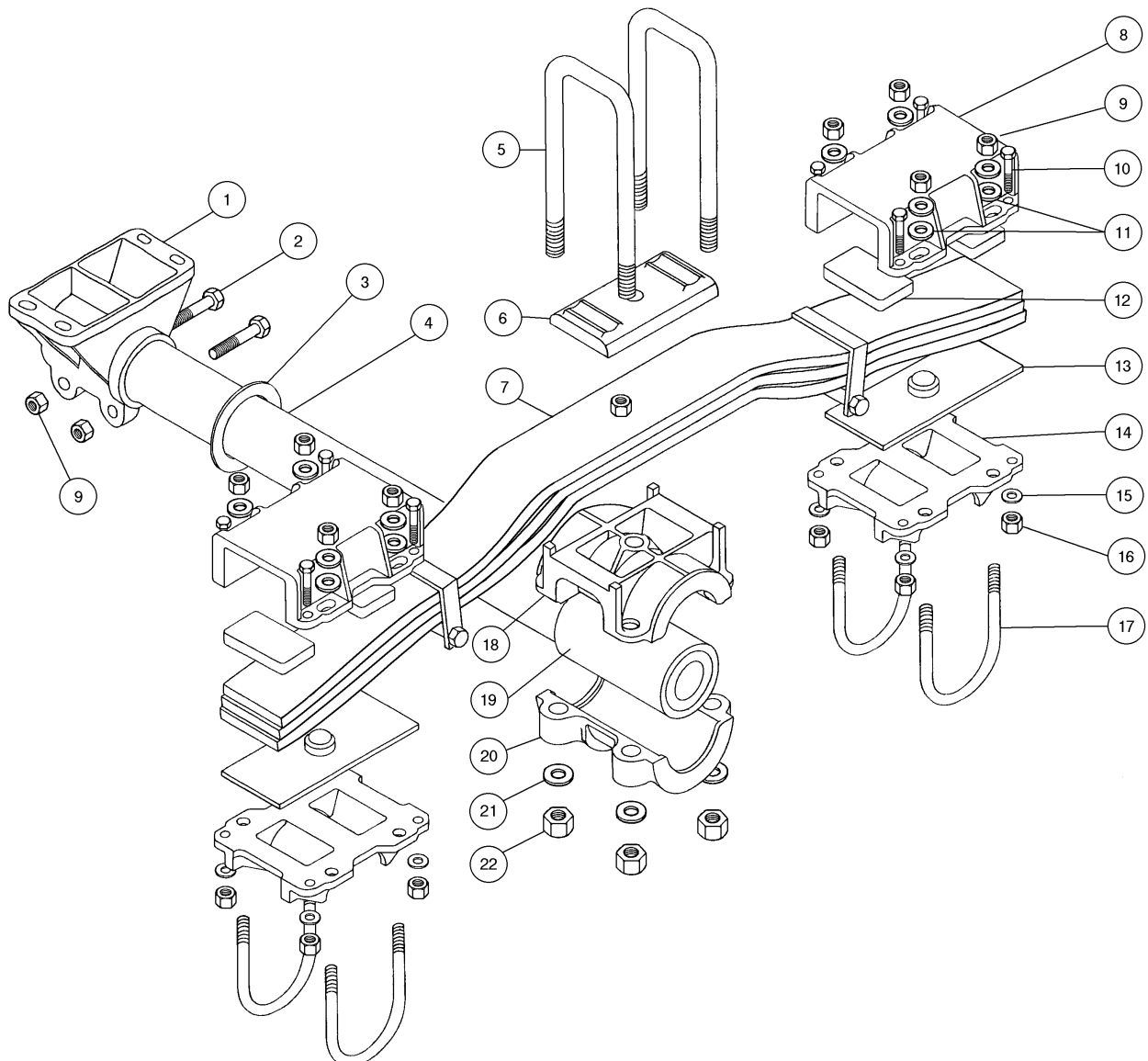
IN ORDER TO ORDER THE CORRECT PARTS FOR YOUR SUSPENSION, REFER TO THE DRAWING ON THE FOLLOWING PAGES TO IDENTIFY THE SUSPENSION PART YOU NEED.

USING THE PART DESCRIPTION AND YOUR TRAILER VIN NUMBER, RANCO WILL BE ABLE TO IDENTIFY THE CORRECT PART FOR YOUR TRAILER SUSPENSION.

BE SURE TO HAVE YOUR VEHICLE IDENTIFICATION NUMBER (VIN #) WHEN TRYING TO ORDER PARTS.



OVERSLUNG TRUNION- OVERSLUNG AXLE

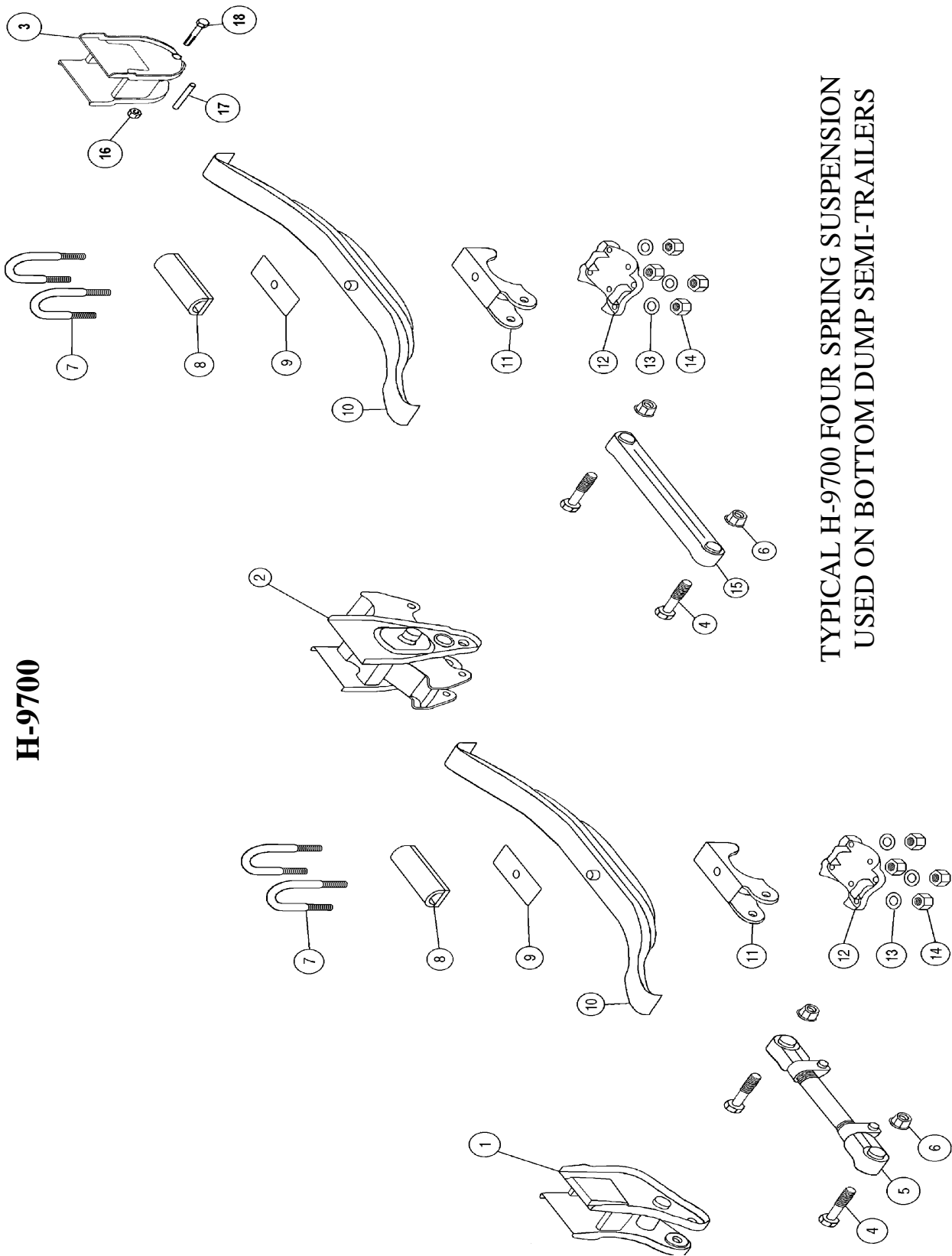


TYPICAL H-900 SINGLE POINT SUSPENSION
USED ON BOTTOM DUMP SEMI-TRAILERS

SUSPENSION PARTS FOR H-900 SUSPENSION

1	897-01	TRUNION HANGER
2	10376-00	4 1/2" X 3/4-16" HEX BOLT
3	895-00	4 1/2 X 5 3/4" WASHER
4	893-01	44,000# TRUNION TUBE
	893-02	50,000 TRUNION TUBE
5	9639-01	U-BOLT, TRUNION
6	9640-00	TRUNION, TOP PLATE
7	12258-01	SPRING, THREE LEAF
8	9937-00	SPRING END CAP
9	841-00	3/4-16" HEX NUT
10	9293-00	2" X 5/8-18" HEX BOLT
11	817-00	13-16" X 1 1/2" WASHER
12	814-00	RUBBER PAD
13	10608-00	ADJUSTMENT PLATE
14	9934-02	SPRING SEAT ADJUSTMENT
15	10273-00	5/8" WASHER
16	11513-03	5/8-18" HEX NUT
17	10060-01	U-BOLT, AXLE
18	891-00	TRUNION HUB-UPPER
19	890-00	RUBBER BUSHING, TRUNION
20	898-00	TRUNION HUB-LOWER
21	837-00	1 1/4" X 2 1/4" WASHER
22	836-00	1 1/8-12" HEX BOLT

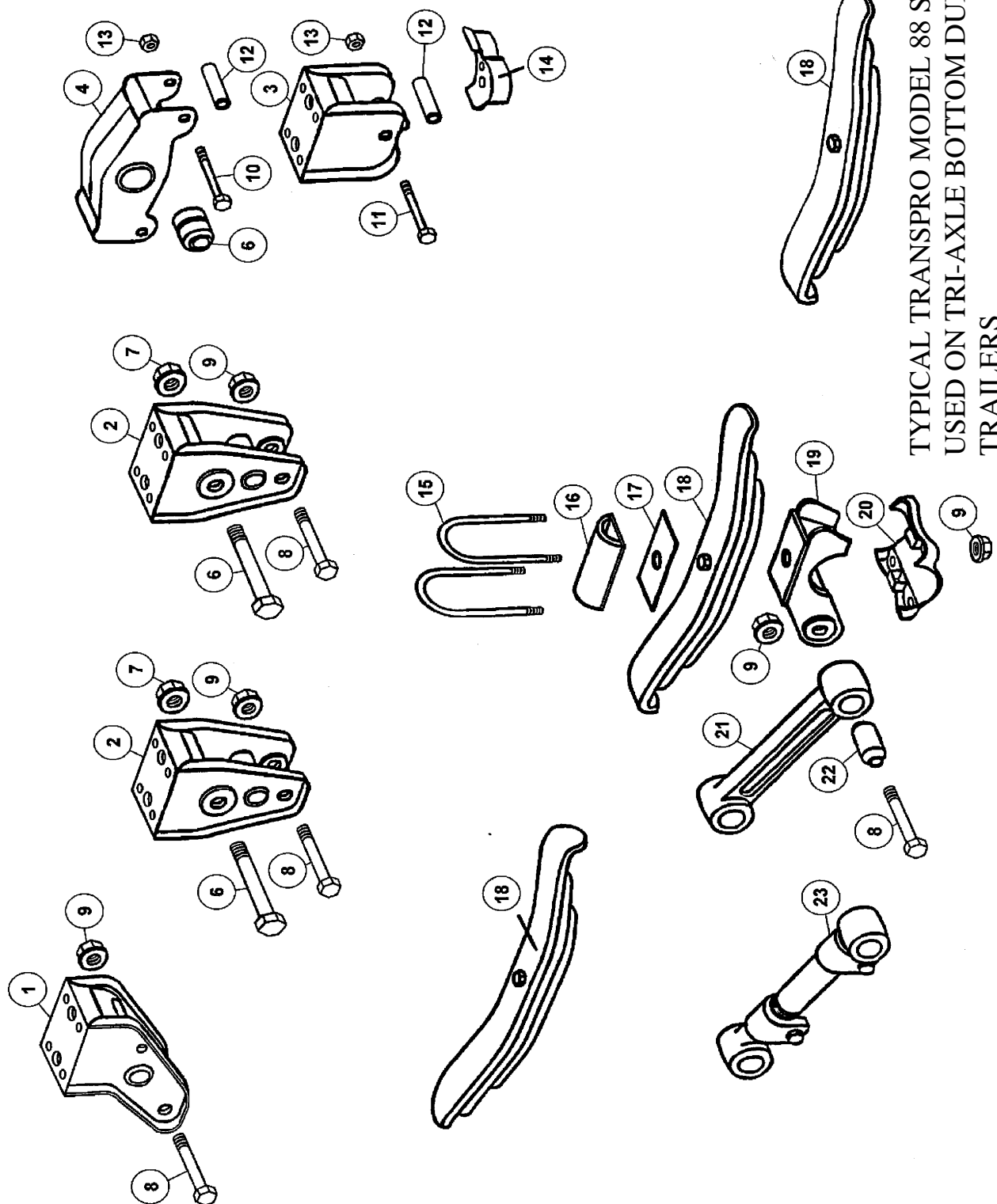
H-9700



TYPICAL H-9700 FOUR SPRING SUSPENSION
USED ON BOTTOM DUMP SEMI-TRAILERS

SUSPENSION PARTS FOR H-9700 FOUR SPRING SUSPENSION

1	7701-08	FLANGE MOUNT FRONT HANGER-RIGHT
	7701-01	FLANGE MOUNT FRONT HANGER-LEFT
2	16319-08	FLANGE MOUNT CENTER HANGER
3	7703-08	FLANGE MOUNT REAR HANGER-RIGHT
	7703-07	FLANGE MOUNT REAR HANGER-LEFT
4	719-02	HEX BOLT
5	16398-04	ADJUSTABLE TORQUE ARM
6	10562-00	FLANGE LOCKNUT
7	7040-11	U-BOLT 12 ¼"
8	16868-01	TOP PLATE
9	17350-02	GALVANIZED LINER
10	354-00	3 LEAF SPRING-HIGH ARCH
11	705-04	SPRING SEAT-2 ¼"
12	710-00	BOTTOM PLATE
13	35-00	7/8 FLAT WASHER
14	34-04	7/8-14 HEX NUT
15	715-00	TORQUE ARM-NON ADJUSTABLE
16	37-03	5/8 LOCK NUT
17	756-00	SLEEVE SPACER
18	759-00	5/8 HEX BOLT



TYPICAL TRANSPRO MODEL 88 SUSPENSION
USED ON TRI-AXLE BOTTOM DUMP SEMI-
TRAILERS

TRANSPRO MODEL 88 SUSPENSION

ITEM NUMBER	PART NUMBER	DESCRIPTION
1	0400-01	FRONT HANGER, FLANGE MOUNT LH
	0400-02	FRONT HANGER, FLANGE MOUNT RH
2	0401-00	EQUALIZER HANGER, FLANGE MOUNT
3	0402-01	REAR HANGER, FLANGE MOUNT LH
	0402-02	REAR HANGER, FLANGE MOUNT RH
4	0650-00	EQUALIZER BEAM ASSY
5	0649-02	EQUALIZER BUSHING
6	0001-14	EQUALIZER BOLT, 1"-14 X 6-1/2"
7	0274-01	FLANGED LOCKNUT, 1"-14
8	0001-08	TORQUE ARM BOLT, 7/8"-14
9	0002-12	FLANGED LOCKNUT, 7/8"-14
10	0001-04	HEX HEAD CAP SCREW, 5/8"-18 X 4-1/2"
11	0001-02	HEX HEA HEX HEAD CAP SCREW, 5/8"-18 X 5-1/8"
12	0741-01	SPRING ROLLER
13	0002-07	LOCKNUT, 5/8"-18
14	0045-00	REPLACEABLE WEAR PAD
15	0078-13	U-BOLT
16	0077-00	TOP PLATE
17	0375-00	DELTRIN LINER
18	0079-01	3 LEAF SPRING
	0329-00	3 LEAF SPRING (CENTER SPRING ON TRI- AXLE)
19	0636-25	AXLE SEAT, 2-1/2
20	0880-00	BOTTOM PLATE
21	0075-20	RIGID TORQUE ARM
22	0022-00	TORQUE ARM BUSHING
23	1035-20	ADJUSTABLE TORQUE ARM BUSHING

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SECTION SEVEN

MISCELLANEOUS PARTS

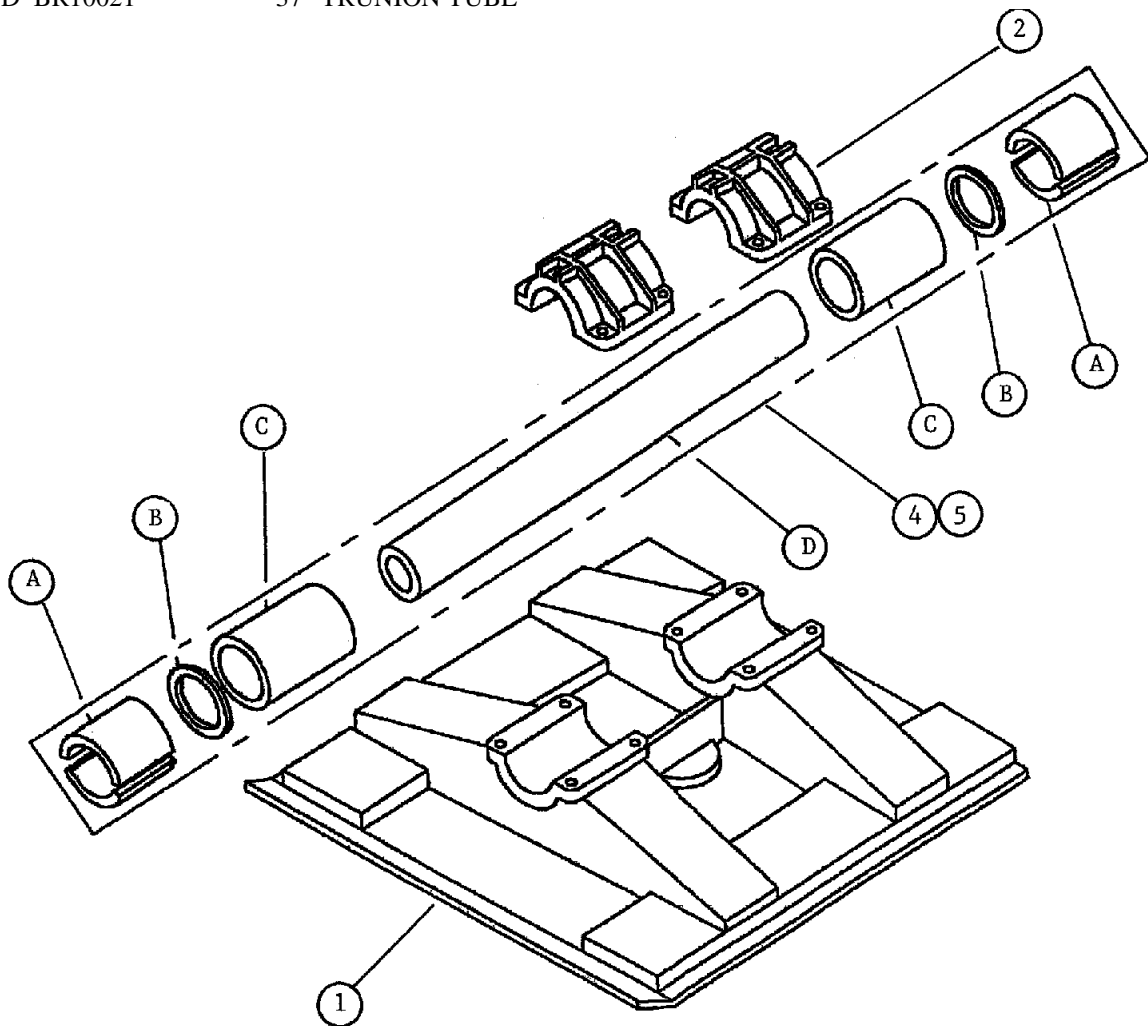
7-9	<u>5TH PLATE DRAWING AND PARTS LIST</u>
7-10	<u>STATIONARY & REMOVABLE DROP LEG DRAWINGS & PARTS LIST</u>
7-11	<u>PUSH BLOCK AND UNDERIDE DRAWINGS & PARTS LIST</u>
7-12	<u>MUD FLAP & REAR FENDER DRAWING & PARTS LIST</u>
7-13	<u>FIBERGLASS FRONT SHED PLATES & FENDERS</u>
7-14	<u>FIBERGLASS REAR SHED PLATES & FENDERS</u>
7-15	<u>WINDROW DEFLECTOR</u>
7-16	<u>LOWER HOPPER EXTENSION</u>

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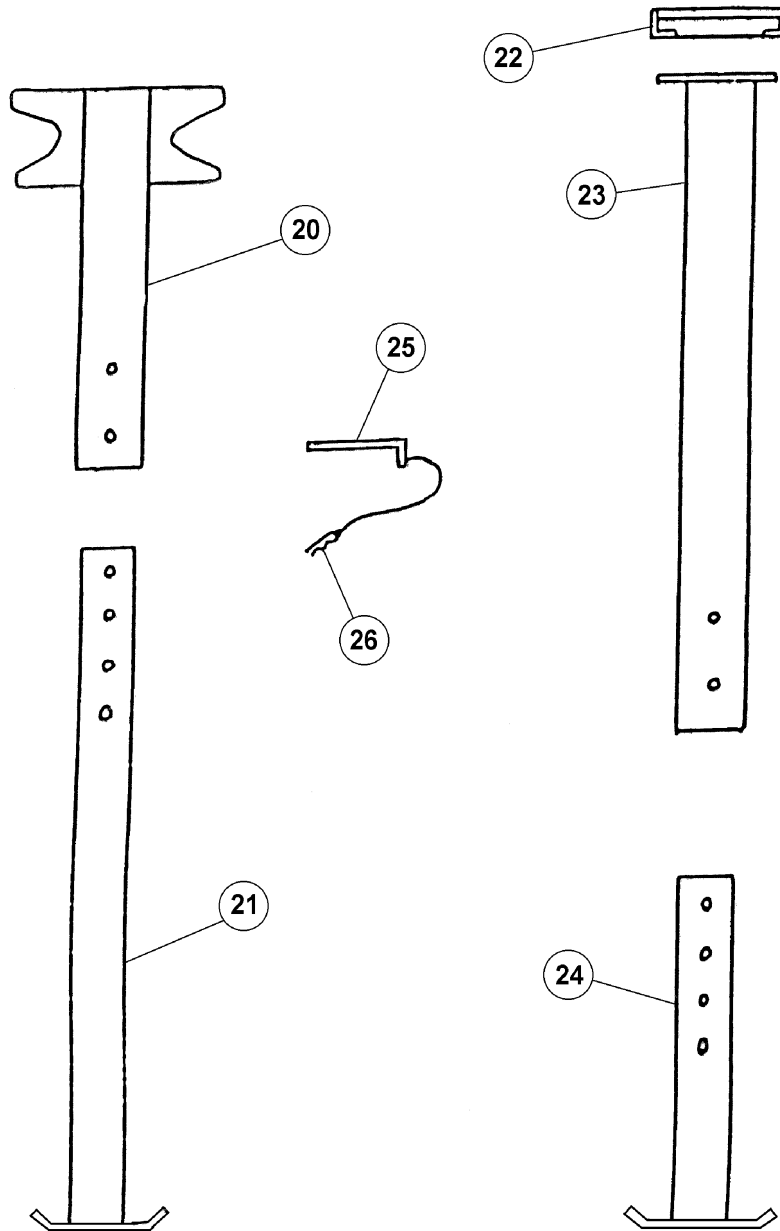
5TH WHEEL ASSEMBLY DRAWING

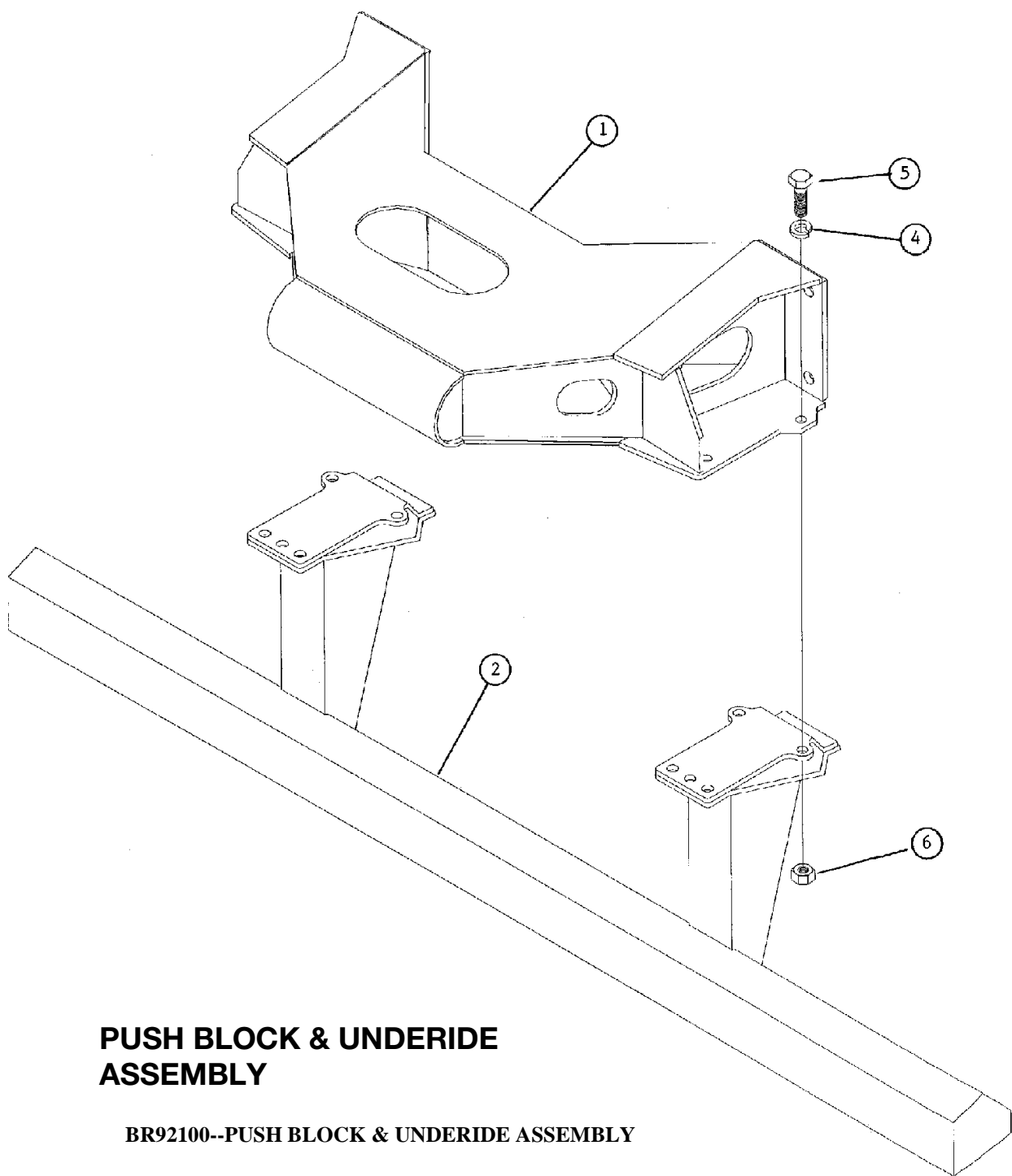
- | | |
|-----------------|--------------------------------|
| 1. BR14010 | 5 TH PLATE ASSEMBLY |
| 2. 11434-00 | TRUNION CAP |
| 3. HB.875C2.5P5 | 7/8" X 2 1/2" GRADE 5 BOLT |
| 4. BR14020 | H-BEAM TRUNION TUBE ASSEMBLY |
| 4A BR13022 | SPLIT BUSHING |
| 4B BR10033 | THRUST WASHER |
| 4C 11442-00 | RUBBER BUSHING |
| 4D BR13020 | 35 1/2" TRUNION TUBE |
| 5. BR10022 | BOX BEAM TRUNION TUBE ASSEMBLY |
| 5A BR10022 | SPLIT BUSHING |
| 5B BR10033 | THRUST WASHER |
| 5C 11442-00 | RUBBER BUSHING |
| 5D BR10021 | 37" TRUNION TUBE |



PARKING LEG ASSEMBLY DRAWING

- | | | |
|----|---------|----------------------------|
| 1. | BR10210 | OUTER STATIONARY LEG TUBE |
| 2. | BR10210 | INNER STATIONARY LEG W/PAD |
| 3. | BR10240 | LEG PIN, WIRE AND CLIP |
| 4. | BR10515 | INNER REMOVABLE LEG W/PAD |
| 5. | BR10505 | OUTER REMOVABLE LEG W/PAD |
| 6. | BR10537 | LEG SOCKET |



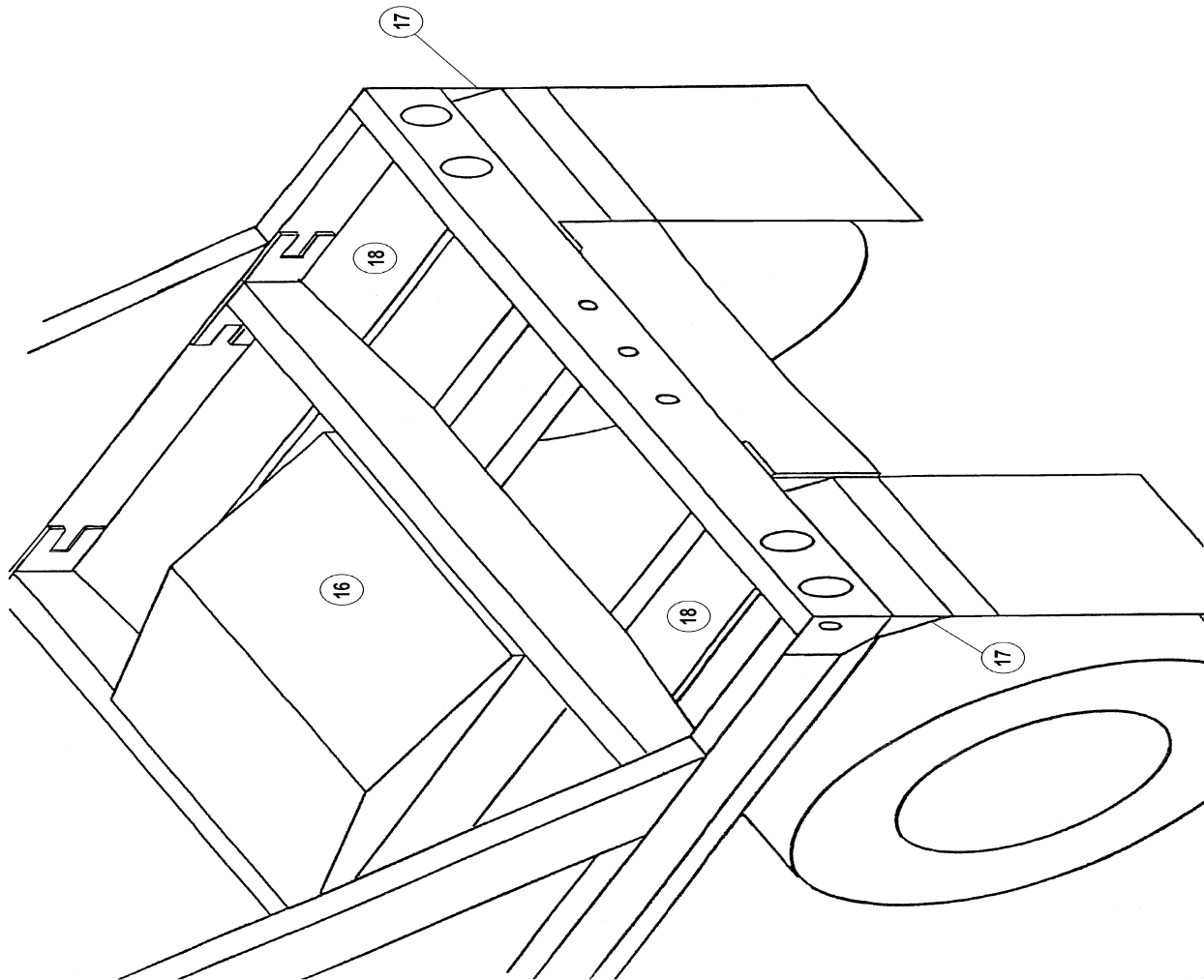


PUSH BLOCK & UNDERIDE ASSEMBLY

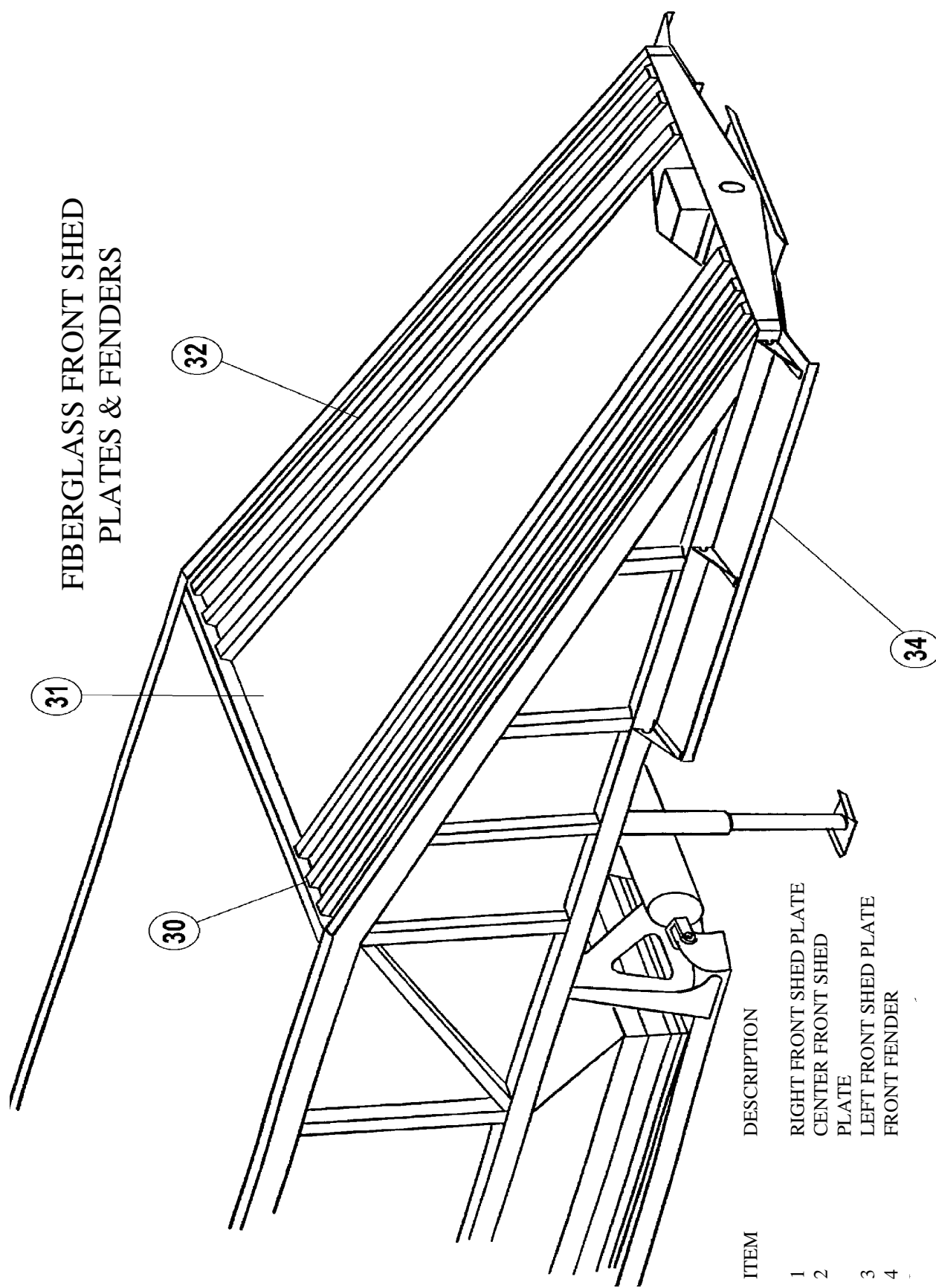
BR92100--PUSH BLOCK & UNDERIDE ASSEMBLY

- | | | |
|----|--------------|---------------------------|
| 1. | BR92150 | PUSH BLOCK ASSEMBLY |
| 2. | BR92125 | UNDERIDE ASSEMBLY |
| 3. | BR92142 | 3 HOLE WASHER (NOT SHOWN) |
| 4. | LW.875Z | 7/8" LOCK WASHER |
| 5. | HB.875C2.5Z8 | 7/8" X 2 1/2" BOLT |

REAR OF TRAILER DRAWING



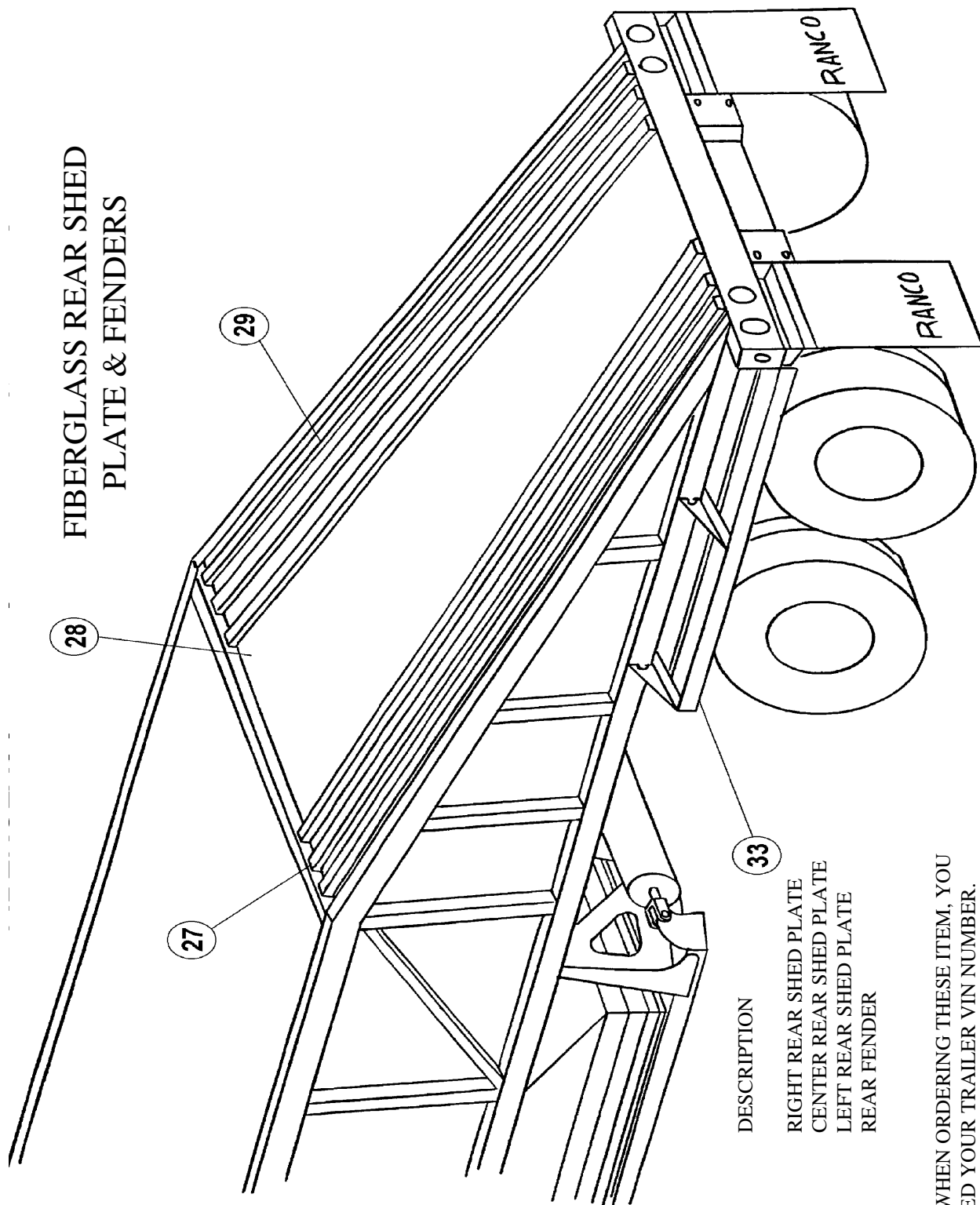
PART	DESCRIPTION
1. BR50120	MUD FLAP BRACKET
2. BR50113	4 HOLE BACKING STRAP
3. RANCOFLAP	RANCO MUD FLAP



FIBERGLASS FRONT SHED
PLATES & FENDERS

ITEM	DESCRIPTION
1	RIGHT FRONT SHED PLATE
2	CENTER FRONT SHED PLATE
3	LEFT FRONT SHED PLATE
4	FRONT FENDER

FIBERGLASS REAR SHED PLATE & FENDERS

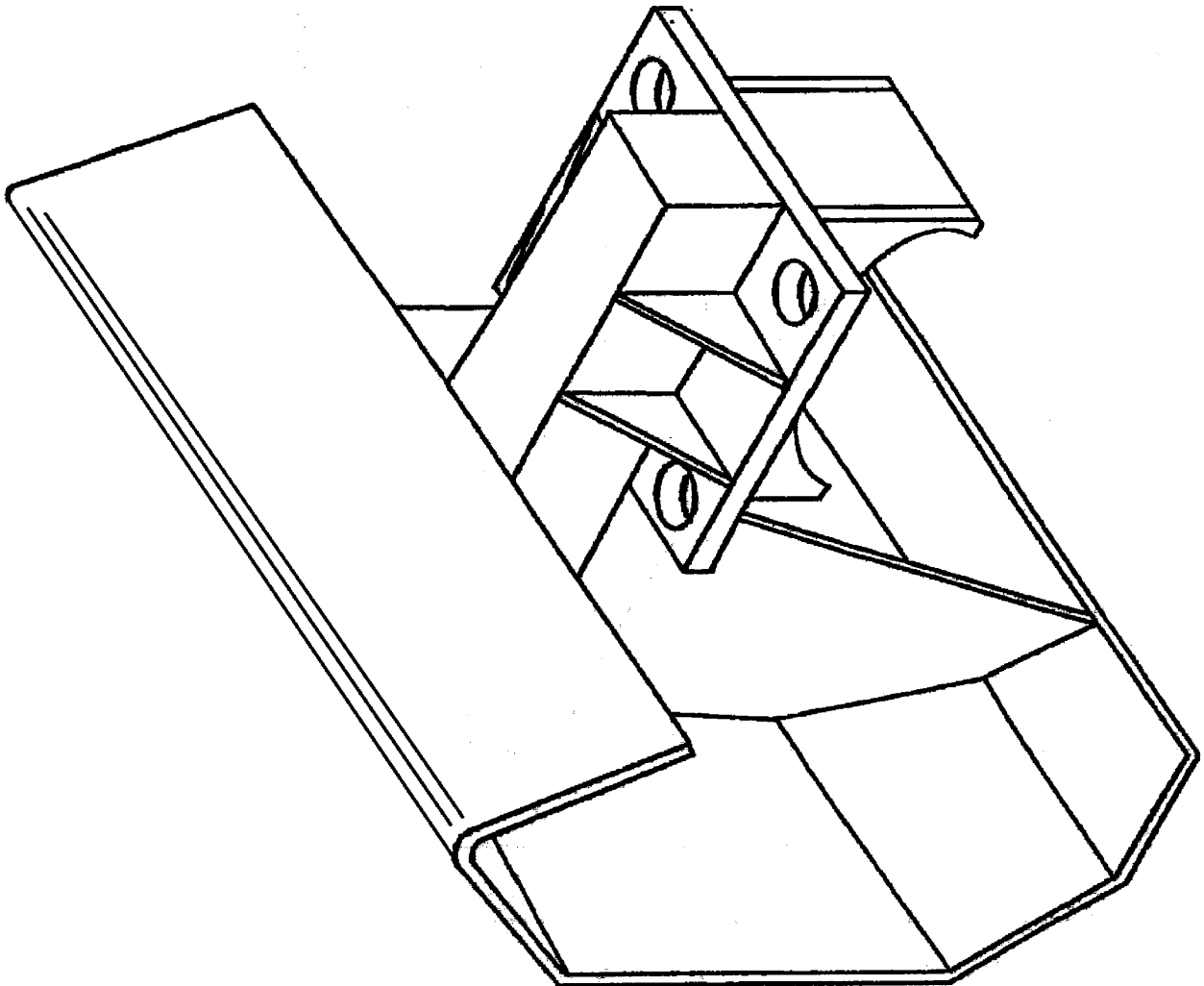


ITEM	DESCRIPTION
1	RIGHT REAR SHED PLATE
2	CENTER REAR SHED PLATE
3	LEFT REAR SHED PLATE
4	REAR FENDER

NOTE: WHEN ORDERING THESE ITEM, YOU
WILL NED YOUR TRAILER VIN NUMBER.

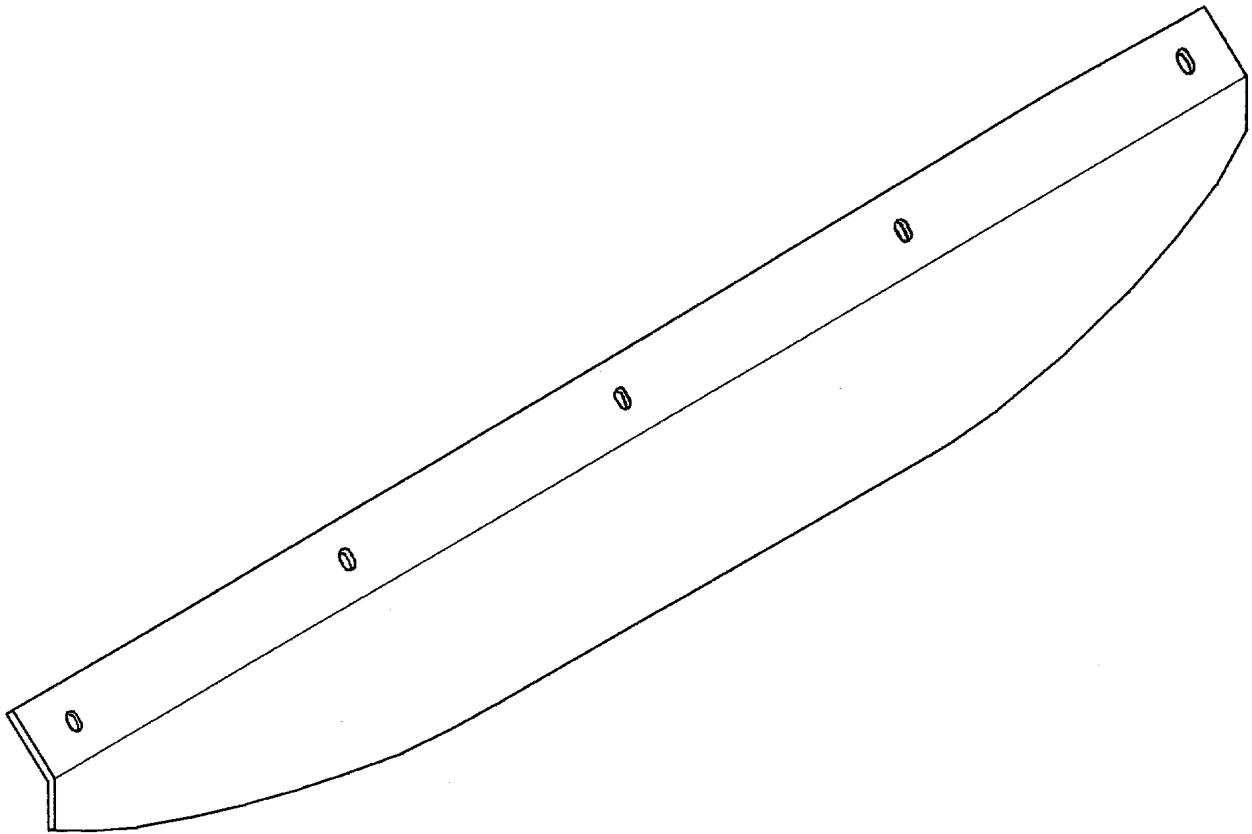
WINDROW DEFLECTORS

PART	DESCCRIPTION
BR90170	LIGHT WEIGHT 27"
BR90100	STANDARD 27"
BR90101	STANDARD 34"
BR90102	STANDARD 37"



LOWER HOPPER EXTENSION

WHEN ORDERING REPLACEMENT LOWER HOPPER EXTENSIONS, YOU WILL
NEED TO GIVE RANCO PARTS DEPARTMENT THE TRAILER SERIAL NUMBER
FOR CORRECT COMPONENTS



SECTION EIGHT

SPECIAL OPTIONS

IF YOUR TRAILER HAS ANY SPECIAL OPTIONS, THE DRAWINGS AND PARTS LIST FOR THOSE OPTIONS CAN BE FOUND IN THIS SECTION.

A. TARP

- a. [CRAMARO TARP PAGE 1](#)
- b. [CRAMARO TARP PAGE 2](#)
- c. [CRAMARO TARP PAGE 3](#)
- d. [CRAMARO TARP PAGE 4](#)

B. [PIN SETTING EQUALIZERS](#)

C. ROSS VALVE

- a. [ROSS VALVE PAGE 1](#)
- b. [ROSS VALVE PAGE 2](#)
- c. [ROSS VALVE PAGE 3](#)

D. PINTLE HITCH

- a. [PINTLE HITCH PAGE 1](#)
- b. [PINTLE HITCH PAGE 2](#)

E. SWITCH GATE

- a. [SWITCH GATE PAGE 1](#)
- b. [SWITCH GATE PAGE 2](#)

F. [SPECIAL PUSH BLOCKS](#)

MAINTENANCE AND OPERATION FOR CRAMARO SLIDE 'N GO TARP SYSTEM

Your Cramaro Slide 'N Go tarp system has been designed to provide you with years of reliable service as long as it is properly used and maintained. Improper usage or lack of maintenance can severely impair its operation and will cause premature wear of the tarp. It is important that you follow all maintenance and operating instructions. They are for your benefit.

MAINTENANCE SCHEDULE

Every 2 – 4 weeks the following procedures should be performed

Check tension of cables	Check length of tarp
Clean and lubricate cables	Check security of cable clamps
Inspect the tarp for any tears, cuts or worn areas	Check alignment of rear bow
Check condition of cables (frayed wire, cuts, rust)	Check tension of V belt or chain
Inspect hardware to be sure fasteners haven't become loose	Auto clips installed on all vinyl systems

Every 6 months remove the cable clamps and inspect that area of the cable for corrosion or broken wires. If necessary, replace the cable.

Every 12 months replace the cable and replace any corroded or damaged fasteners.

**** IMPORTANT NOTE ****

The cables will stretch considerably for the first few weeks after initial installation, it is extremely important that they be kept tight at all times.

CABLE TENSION

The cable tension is correct when you cannot easily touch the cable together when squeezing with one hand 18" from the rear pulley.

CABLE ADJUSTMENT

The cable is adjusted by first loosening the main nut on the rear pulley using a 1 1/8" wrench and then tightening the cable by using a 3/4" wrench on the rear spanner nut. Be sure to retighten the pulley nut. Do not over tighten the cable, as this will cause the front shaft to bend or break which can cause the cable to derail.

CABLE LUBRICATION

To clean and lubricate the cable run a clean rag covered with light oil or WD 40 over the entire cable on both sides of the system. In addition, spray WD 40 or a similar product into the slots on the bow ends. Do not use any heavy oil products, as this will cause the dirt to stick to the cables and pulleys.

ADJUSTMENT OF THE V BELT OR CHAIN

If the rubber belt slips or if the chain loosens while operating the system, an adjustment will be necessary. Simply loosen the three bolts on the handle bracket and slide the handle downward until desired tension is achieved. Retighten the bolts.

ADJUSTING THE TARP LENGTH



The tarp should be stretched tight when in the covered position. If the tarp is loose or if the last bow touches the rear cable pulley, the tarp must be shortened or premature wear will result. To shorten the tarp, undo the bolts on the front pipe, and rotate the front pipe until desired length is achieved. Retighten bolts. Do not shorten more than 12" from the original length.

BOW ALIGNMENT

To check for proper bow alignment, crank the system all the way to the front of the vehicle. The ends of all the bows should be touching each other and should be tight against the front pipe. If an adjustment is necessary, loosen the cable on the opposite side from the one that is out of alignment. Crank the handle forward until all the bows are touching then retighten the cable.

OPERATING THE TARPAULIN SYSTEM

All of the Slide 'N Go systems will have a longer life expectancy if the systems are cranked to the back of the trailer at all times
the load. The handle must be locked and tension applied to the tarp.

CRAMARO TARP PAGE 1

**** SPECIAL WARNING FOR ALL SYSTEMS****

- DO NOT DUMP WITH THE LOAD COVERED
- ALWAYS CRANK THE TARP ALL THE WAY TO THE FRONT BEFORE DUMPING
- FAILURE TO DO SO MAY CAUSE THE BOWS TO BE SUCKED DOWNWARD
- THIS CAN CAUSE EXTENSIVE DAMAGE TO THE BOWS AND TARP

Check the tension of the nylon cables (if a drop side system) when you check your steel drive cables. The nylon cables should not sag when the system is cranked to the front of the trailer.

You must use auto clips, ropes or straps to secure the tarp when the vehicle is in motion.

TROUBLE SHOOTING GUIDE

If the system will not move when cranked, check to see if:

The V belt or chain is too loose
The cables are too loose
The set screw in the shaft chain or V belt pulley is loose
Check side boards to see if obstructed

If cables are breaking:

Check the height of your drive cables. The bottom of the cables should be approximately ½" above the running surface of the body. Heights greater than 1" can cause the cable to wear prematurely or even snap.

Make sure the cables are not loose
Tarp is too long, creating a lot of wind whipping which can break cables and cause premature wear on system

If the system is hard to crank see if:

The cables are too tight
The cables are dirty or not lubricated
The rear bow is not in alignment

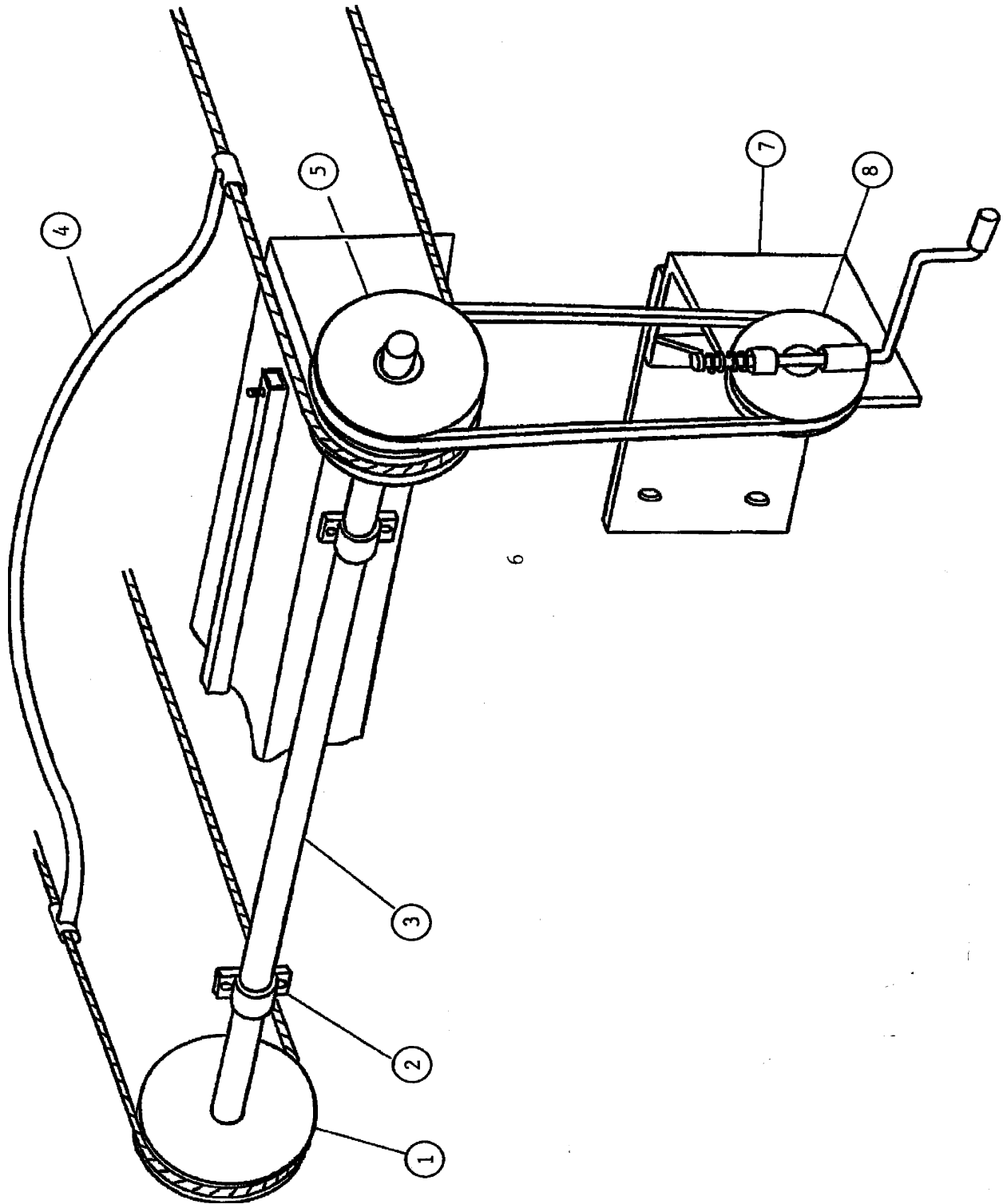


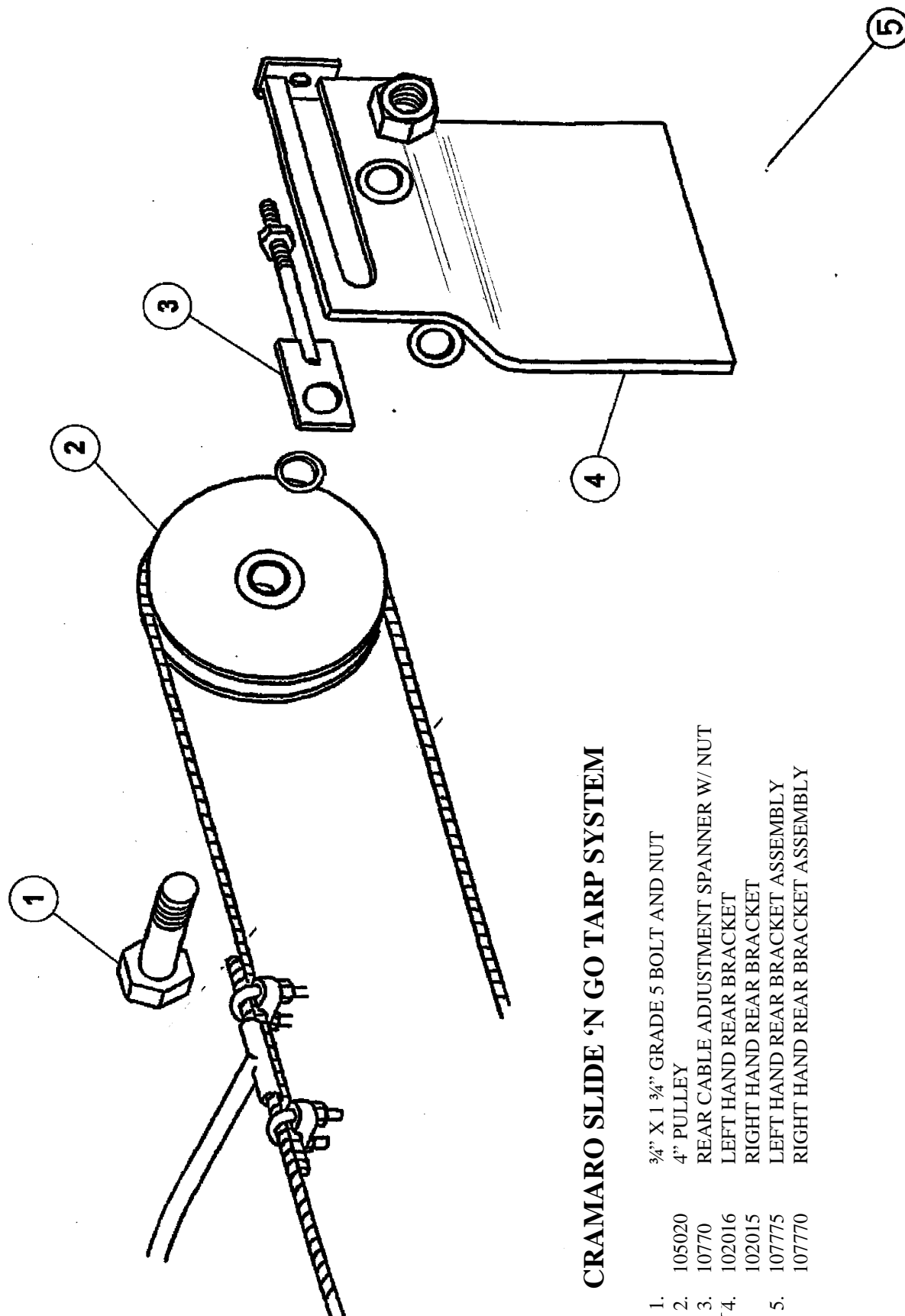
The bows are not at the same cable centers (You can reshape the bows by pushing upwards or downwards to bend them back into shape. The distance between the ends of each bow must be the same as the center distance of the cable pulleys.
 For systems with nylon cables, the nylon cables may be too loose
 The sideboards are damaged

**IF YOU REQUIRE FURTHER INFORMATION OR ASSISTANCE YOU CAN CONTACT CRAMARO AT
 (800) 272-6276.**

CRAMARO TARP ACCESSORY DRAWING

1.	105004	5 IN CABLE PULLEY
2.	105005	7 IN CABLE PULLEY
3.	105010	1 IN PILLOW BLOCK BEARING
	108605	97 IN SHAFT ASSY W/ BEARINGS & CABLE PULLEY
	108615	103 IN SHAFT ASSY W/ BEARING & CABLE PULLEY
4.	108312	97 IN X 12 IN RISE BOW
	108512	103 IN X 12 IN RISE BOW
	108518	103 IN X 18 IN RISE BOW
5.	105030	7 IN V-BELT PULLEY
	105060	9 IN CHAIN SPROCKET
6.	107105	CRANK ADAPTER PLATE
7.	107257	HANDLE BRACKET ASSY- CHAIN
	107256	HANDLE BRACKET ASSY- BELT
8.	107270	HANDLE ASSY ONLY- BELT
	107275	HANDLE ASSY ONLY- CHAIN
9.	109005	61 N HOLD DOWN CLIP RIGHT (NOT SHOWN)
	109006	6 IN HOLD DOWN CLIP LEFT (NOT SHOWN)



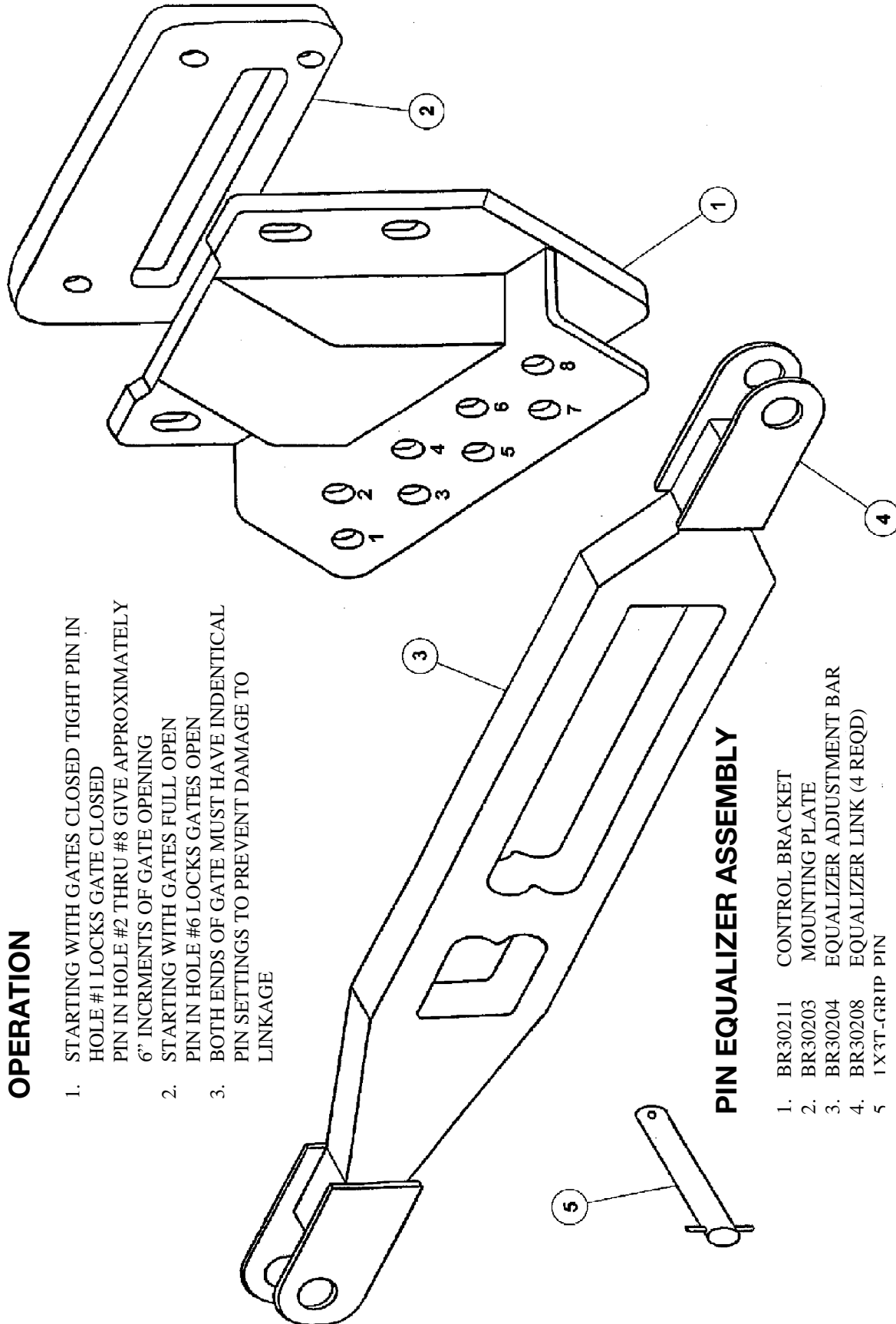


CRAMARO SLIDE 'N GO TARP SYSTEM

- | | | |
|----|--------|--------------------------------------|
| 1. | 105020 | 3/4" X 1 3/4" GRADE 5 BOLT AND NUT |
| 2. | 10770 | 4" PULLEY |
| 3. | 102016 | REAR CABLE ADJUSTMENT SPANNER W/ NUT |
| 4. | 102015 | LEFT HAND REAR BRACKET |
| | 102015 | RIGHT HAND REAR BRACKET |
| 5. | 10775 | LEFT HAND REAR BRACKET ASSEMBLY |
| | 10770 | RIGHT HAND REAR BRACKET ASSEMBLY |

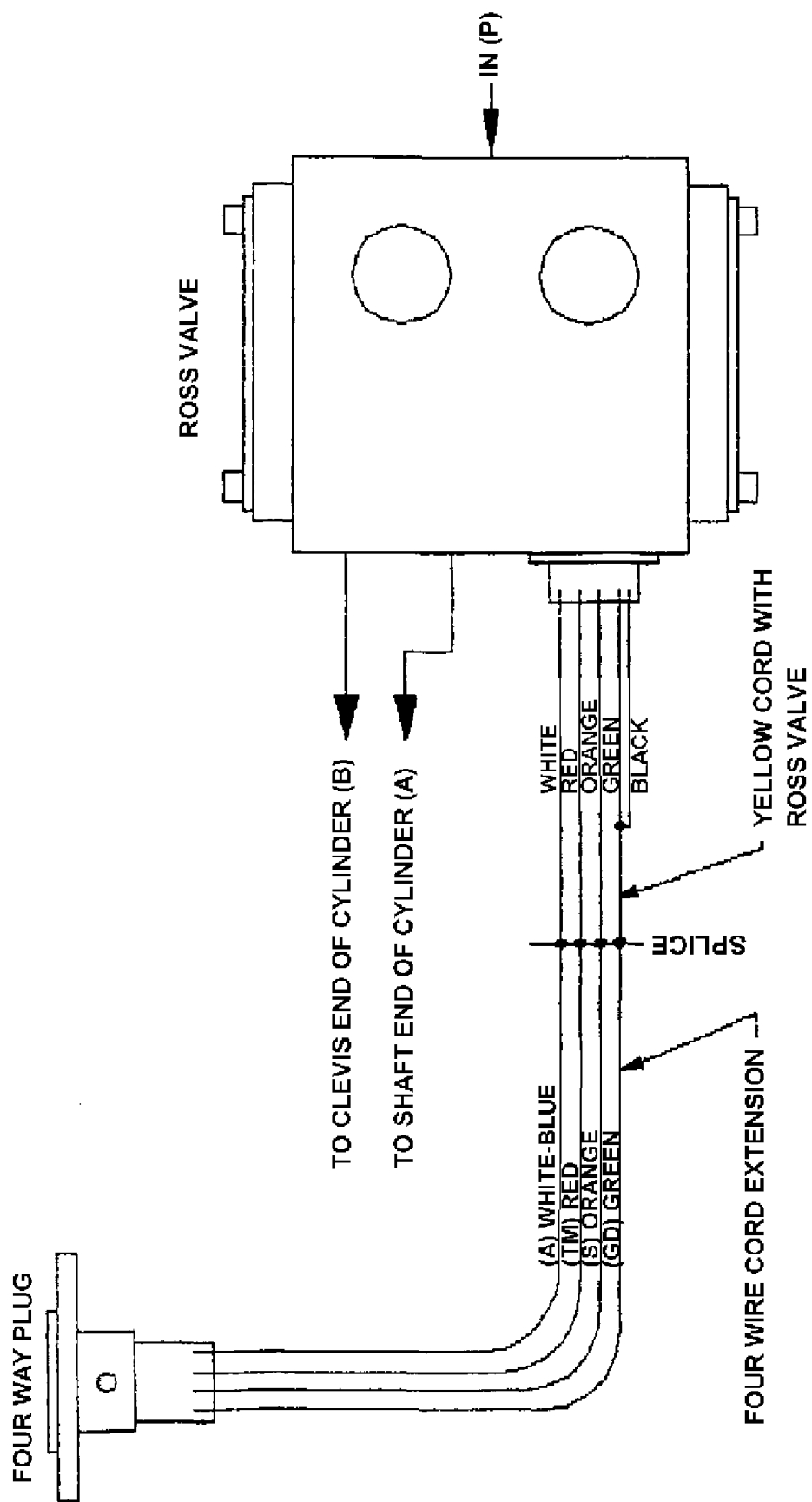
OPERATION

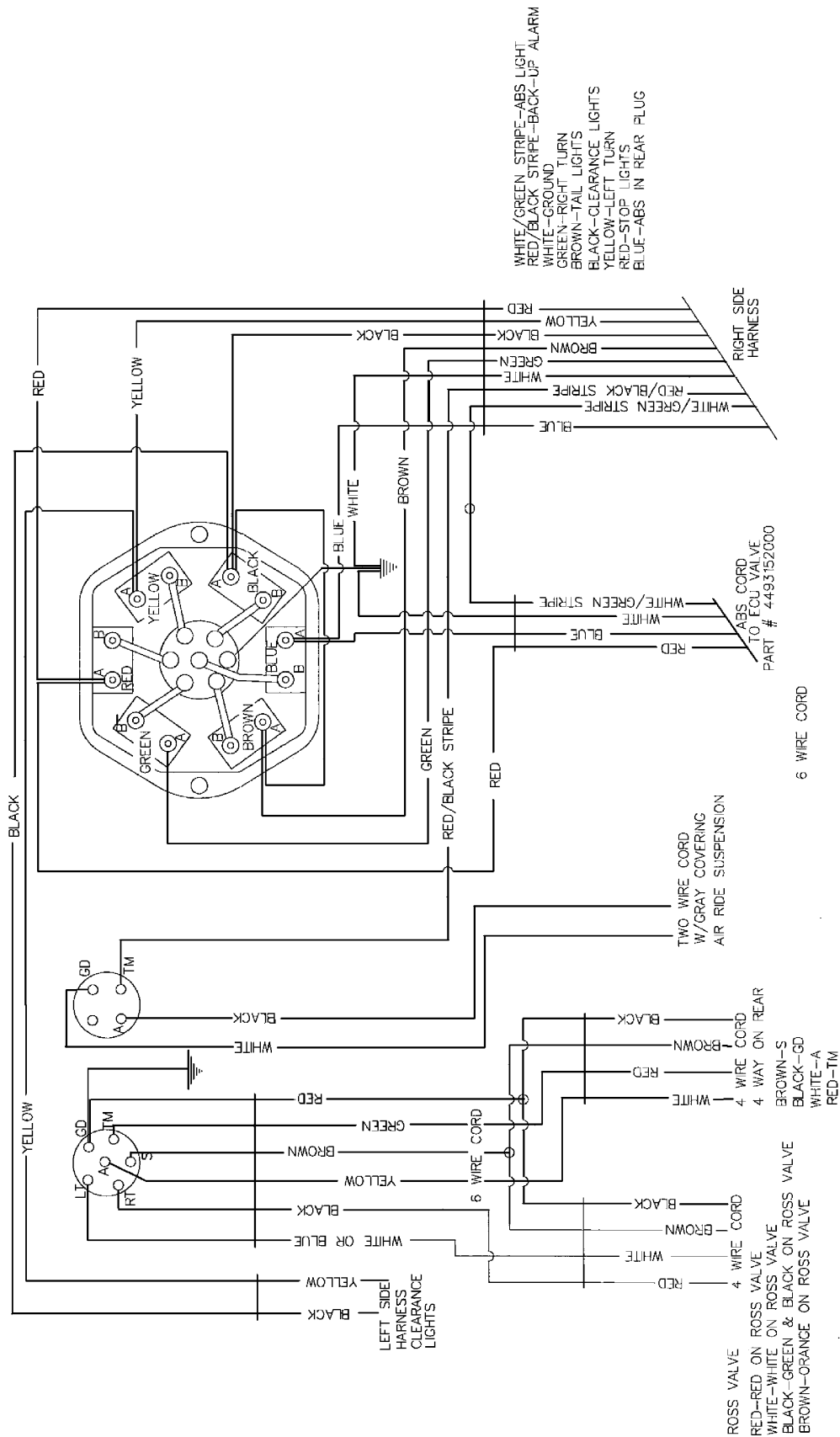
1. STARTING WITH GATES CLOSED TIGHT PIN IN HOLE #1 LOCKS GATE CLOSED
PIN IN HOLE #2 THRU #8 GIVE APPROXIMATELY 6" INCRMENTS OF GATE OPENING
2. STARTING WITH GATES FULL OPEN
PIN IN HOLE #6 LOCKS GATES OPEN
3. BOTH ENDS OF GATE MUST HAVE IDENTICAL PIN SETTINGS TO PREVENT DAMAGE TO LINKAGE

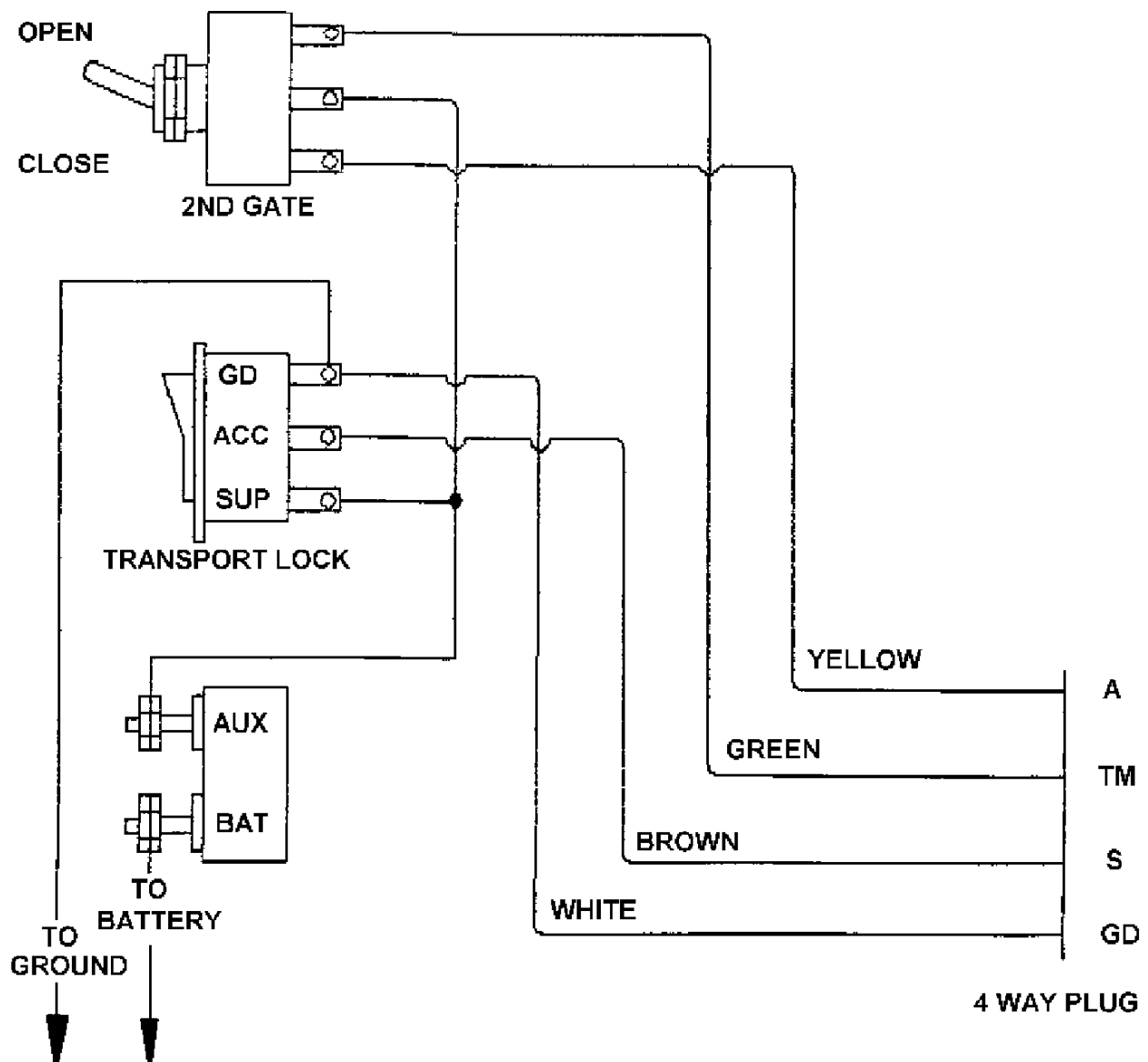


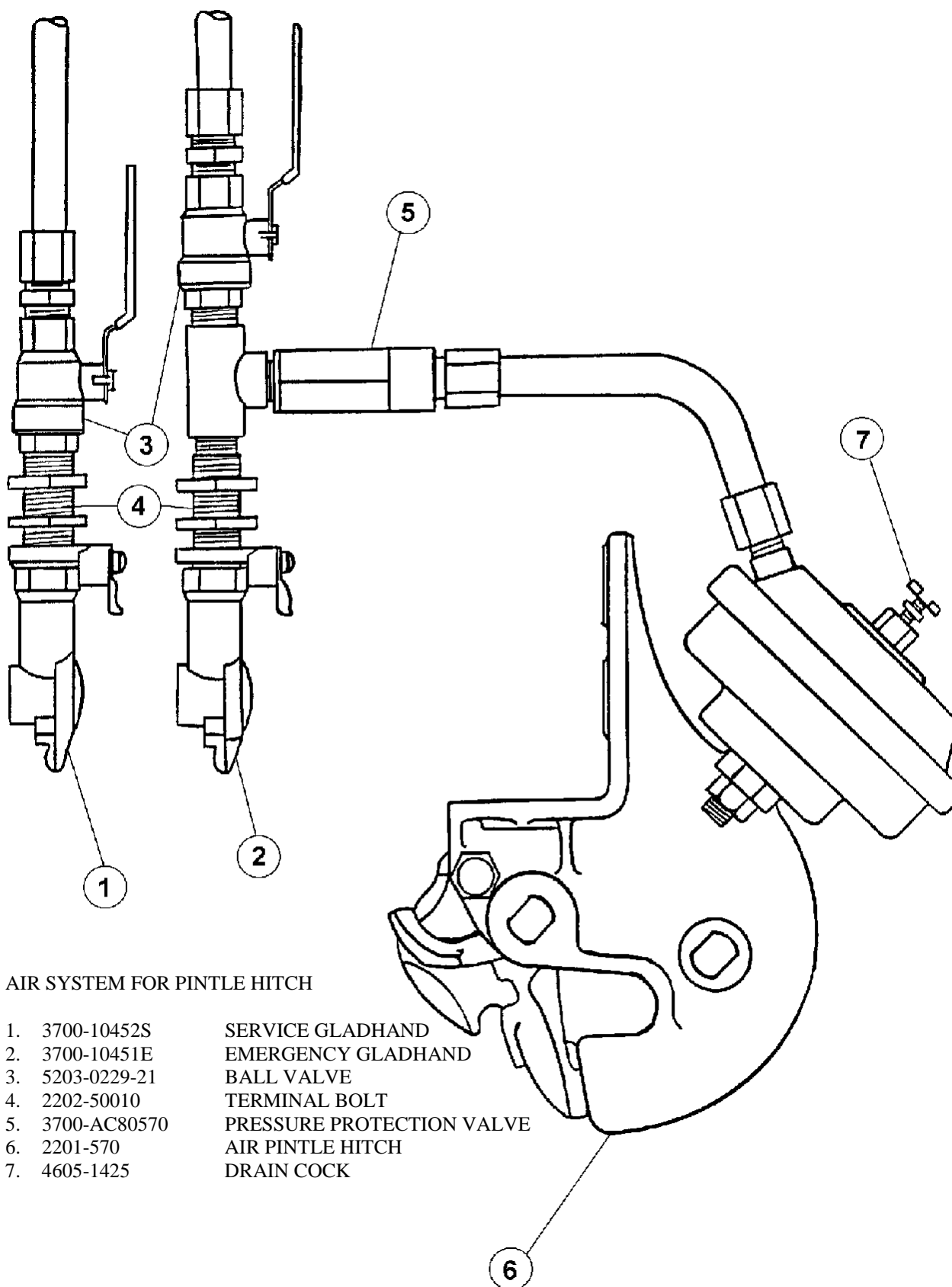
PIN EQUALIZER ASSEMBLY

1. BR30211 CONTROL BRACKET
2. BR30203 MOUNTING PLATE
3. BR30204 EQUALIZER ADJUSTMENT BAR
4. BR30208 EQUALIZER LINK (4 REQD)
5. 1X3T-GRIP PIN



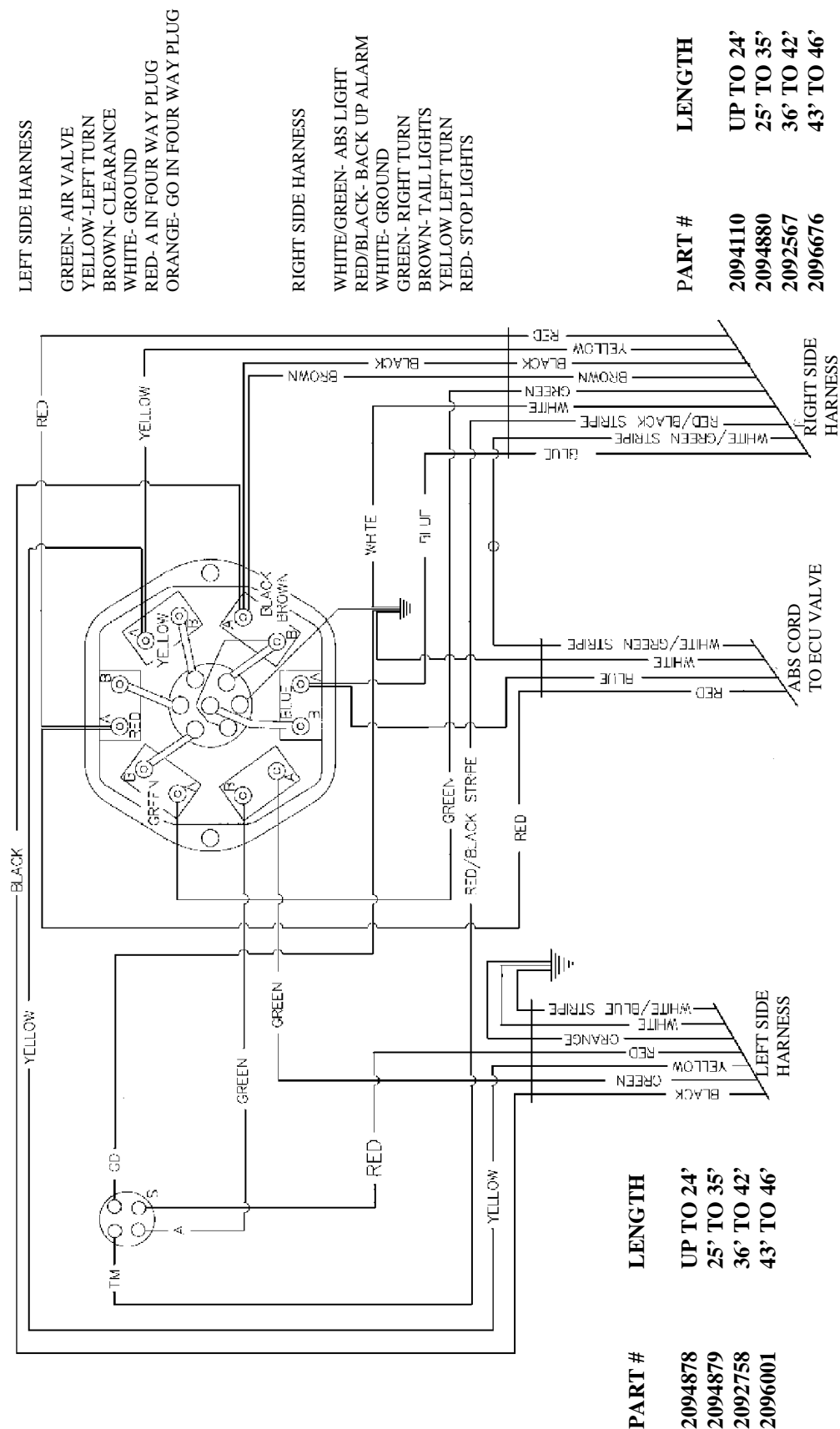






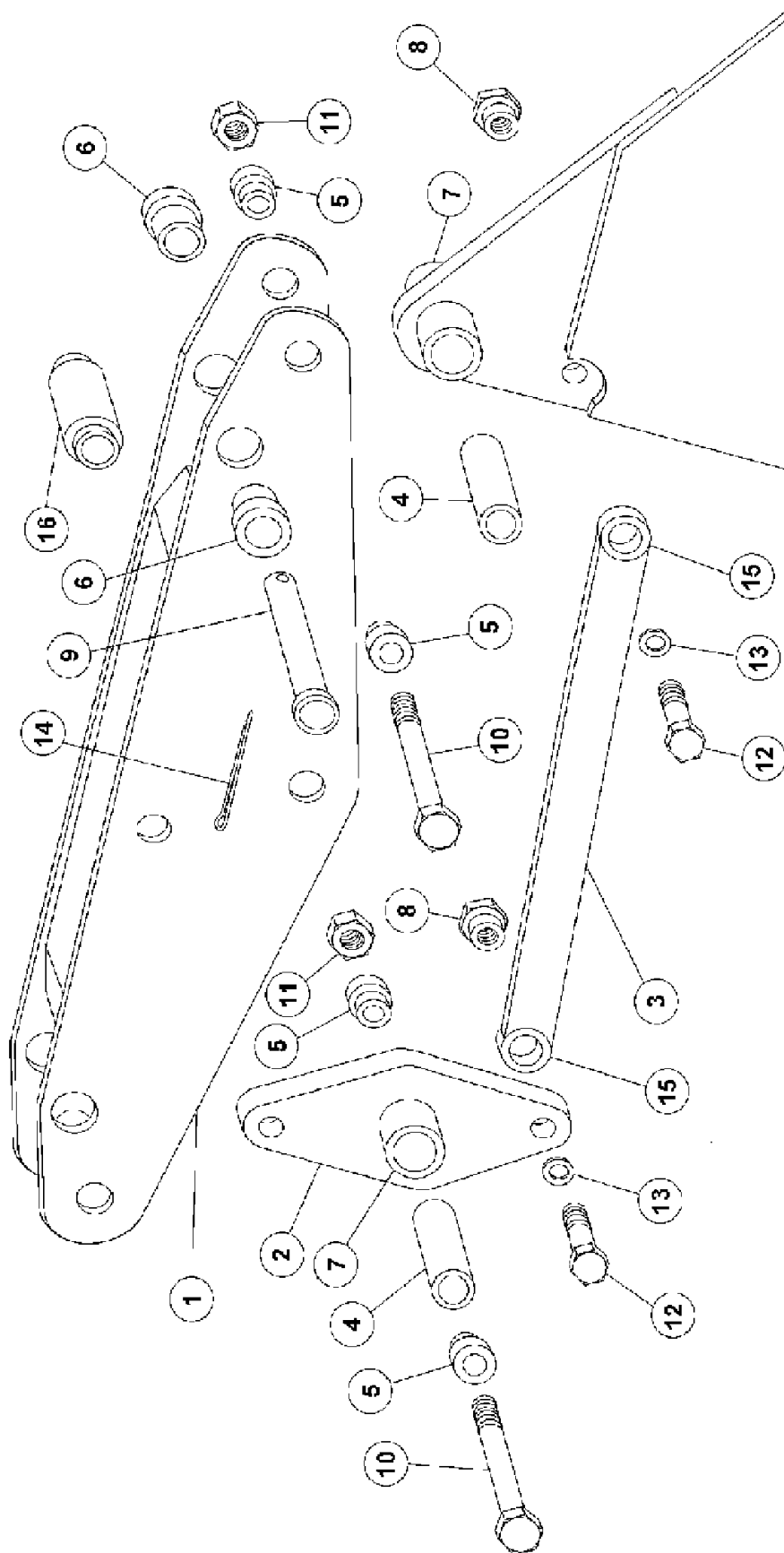
AIR SYSTEM FOR PINTLE HITCH

- | | | |
|----|--------------|---------------------------|
| 1. | 3700-10452S | SERVICE GLADHAND |
| 2. | 3700-10451E | EMERGENCY GLADHAND |
| 3. | 5203-0229-21 | BALL VALVE |
| 4. | 2202-50010 | TERMINAL BOLT |
| 5. | 3700-AC80570 | PRESSURE PROTECTION VALVE |
| 6. | 2201-570 | AIR PINTLE HITCH |
| 7. | 4605-1425 | DRAIN COCK |



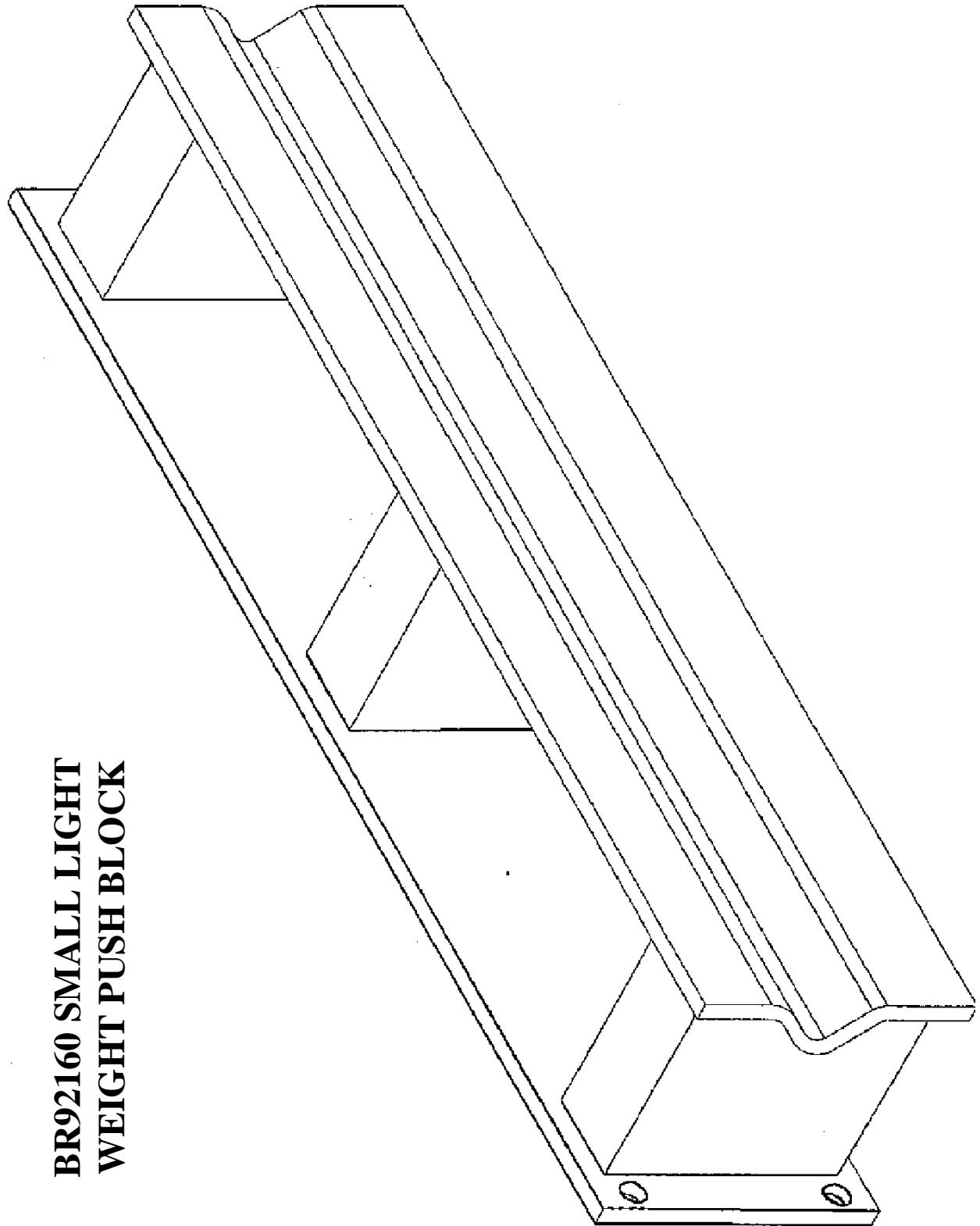
ELECTRICAL SYSTEM

FOR SINGLE VALVE W/ PINTLE HITCH



SWITCH GATE

ITEM NUMBER	PART NUMBER	DESCRIPTION
1	BR38110	GATE HANGER ASSEMBLY
A	BR38110-1	SIDE PLATE
B	BR38111	SPREADER PLATE
2	BR38130	EQUALIZER ASSEMBLY
A	BR38131	EQUALIZER ARM
B	BR38126	GATE HINGE BUSHING-OUTER
3	BR38150	UPPER EQUALIZER ARM ASSY
A	BR38152	EQUALIZER LINK
B	BR38138	EQUALIZER BUSHING
3a	BR38151	LOWER EQUALIZER ARM ASSY
A	BR38154	EQUALIZER LINK
B	BR38138	EQUALIZER BUSHING
4	BR38123	INNER BEARING
5	BR38124	GATE RETAINER
6	BR38125	RETAINER ASSY
7	BR38126	GATE HINGE BUSHING-OUTER
8	BR38127	HEX BUSHING
9	BR38128	1-3/16 X 5-1/4 PIN
10	1003-00215453	7/8 X 5-1/2 GR. 5 BOLT
11	1003-01515400	7/8 GR. 5 NUT
12	1003-00215238	3/4 X 1-3/4 GR. 5 BOLT
13	1003-22305200	3/4 LOCKNUT
14	1003-02404242	3/8 X 2-1/2 COTTER PIN
15	BR38138	EQUALIZER BUSHING
16	BR38141	QR PIN BUSHING



**BR92160 SMALL LIGHT
WEIGHT PUSH BLOCK**