

# **ALLJET**

## **Operation, Service and Parts Manual**

**VacAll Industries Inc.**

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**[www.vacallindustries.com](http://www.vacallindustries.com)**

## INTRODUCTION

This instruction manual is the operation, maintenance, and parts manual for the **AllJet**.

It has been prepared to acquaint you with the design features of the unit and to instruct you in its proper use and maintenance. The **AllJet** is designed for long lasting, reliable service, provided it receives regular maintenance and service.

All operators and service people should read this manual to acquaint themselves with its contents. The **AllJet** is a piece of high quality heavy equipment and should be operated and maintained as such.

This manual should be retained with the unit as quick reference for the operator and maintenance personnel.

## TRANSFER CASE DRIVE ALLJET OPERATION WITH MANUAL TRANSMISSION

**WARNING:** read instructions before operating. Failure to follow shifting procedure may cause transfer case damage.

- 1.) Set parking brake with transmission in neutral..
- 2.) Engine at idle.
- 3.) Unit air pressure must be at 90 psi.
- 4.) Depress clutch and place in road mode to out position.
- 5.) Depress clutch and select water pump by shifting to in position.
- 6.) Depress clutch and shift hydraulic pump to in position.
- 7.) With clutch depressed, shift transmission to operating gear and slowly release clutch pedal and select engine speed with throttle control at control panel.

### To End Operation

- 1.) Reduce engine speed to idle.
- 2.) Depress clutch and shift to neutral, then wait one minute (60 seconds) before shifting anything.
- 3.) With clutch depressed, shift hydraulic pump to out position.
- 4.) Shift water pump to the out position.
- 5.) Place road mode shifter to the in position.

### To Begin Cold Water Recirculation

- 1.) Engine at idle in neutral.
- 2.) Unit air must be at 90 psi.
- 3.) With the clutch pedal depressed shift road mode and water pump to the in position.
- 4.) Do not exceed gear indicator on the shift range tag.
- 5.) Drive the unit normally.

### To End Cold Weather Circulation

- 1.) Engine at idle in neutral.
- 2.) Unit air pressure must be at 90 psi.
- 3.) Place transmission in "N".
- 4.) Shift the water pump to the out position

## Transfer Case Drive

### AllJet Operation With Allison Automatic Transmission

Warning read instructions before operating. Failure to follow shifting procedure may cause Transfer Case damage.

- 1.) Set parking brake in neutral.
- 2.) Engine at idle.
- 3.) Unit air pressure must be at 90 psi.
- 4.) Place the transmission in 2-5 (D for world transmission).
- 5.) Engage the hydraulic pump for hydraulics.
- 6.) Place the transmission into neutral.
- 7.) Place Road Mode to out position.
- 8.) Select the water pump by shifting to the in position.
- 9.) Place the transmission in 2-5 (D for world transmission).
- 10) Select the engine speed with the throttle cable at the control panel.

### To End Operation

- 1.) Reduce the engine speed to idle.
- 2.) Place the transmission in neutral and wait one minute.
- 3.) Shift the water pump to the out position.
- 4.) Place the road mode shifter to the in position.
- 5.) Shift the hydraulic pump to the out position to disengage.

### Begin Cold Weather Recirculation

- 1.) Engine idle.
- 2.) Unit air pressure must be at 90 psi.
- 3.) Place the transmission in neutral
- 4.) Select the water pump by shifting to the in position.
- 5.) Drive unit normally.

### End Cold Weather Recirculation

- 1.) Engine at idle.
- 2.) Unit air pressure must be at 90 psi.
- 3.) Place the transmission in neutral.
- 4.) Shift water pump to out position.

## HYDROSTATIC AllJet OPERATION

Rodder

Start-Up:

- 1.) Position vehicle as needed over the work area. Shift transmission to neutral.
- 2.) Set parking brake.
- 3.) Truck engine at idle.
- 4.) Turn the rodder control valve to the off position.
- 5.) Assure that the air pressure is a minimum of 90 PSI.
- 6.) Depress the clutch pedal and shift water pump / hydraulic pump to "in" position.
- 7.) Exit the truck cab and go to the hose reel control panel.
- 8.) Turn the power to panel switch to "on" position.
- 9.) Select and install desired cleaning nozzle on to sewer hose.
- 10.) Use the hose reel "Pay In" / "Pay Out" control valve to pay out the necessary hose.
- 11.) Insert sewer hose through tigertail or other hose protector.
- 12.) Insert nozzle and hose into the sewer line and determine that it is far enough in for a safe start-up.
- 13.) Turn the rodder control valve to "on" position.
- 14.) Determine that the bypass valve is in "on" position.
- 15.) At the control panel increase the engine throttle to operational RPM's.
- 16.) To attain water flow slowly increase the water pump throttle just enough to pull the sewer hose down stream.
- 17.) Increase the water pump throttle to operating flow and make certain that the pressure never exceeds 2000 PSI.
- 18.) "Pay In" the sewer hose to clean lines. CAUTION: Use extreme care when nozzle approaches manhole.

## Rodder

### Shut-Down

**CAUTION:** The high water pressure from the nozzle can cause serious injury or kill.

- 1.) Decrease the water pump throttle to a minimum position.
- 2.) Turn the rodder control valve to a "off" position.
- 3.) Decrease the engine RPM's to an idle speed.
- 4.) Use the hose reel control valve to "Pay in" the remaining rodder hose.
- 5.) Remove the tigertail and nozzle and store in tool box or storage container.
- 6.) Secure the sewer hose.
- 7.) Enter the truck cab and depress the clutch pedal and shift water pump, hydraulic pump to the "Out" position.
- 8.) The truck unit is now in its normal driving mode.

# Auxiliary Engine Drive AllJet Operation

## ***Start-Up:***

1. Check the water level in the tank to ensure that there is an ample amount of water.
2. Check the inside of the shroud housing for any obstructions in the powertrain.
3. Check the clutch engagement to ensure that the clutch is disengaged.
4. Check to ensure that all of the ball valves at the rear are in the OFF position.
5. Push and hold in on the Murphy shutdown override on the control panel.
6. Once you see the oil pressure rise, release the button.
7. With the engine running at an idle speed, slowly begin to engage the clutch. When you hear the water pump start, snap in the clutch engagement. (Note: refer to clutch owner's manual for proper adjustment and lubrication.)
8. Run your engine up to the required r.p.m.
9. Turn the rodder or handgun ball valve to the ON position.
10. Turn the by-pass ball valve to the OFF position.

## ***Shutdown:***

1. Turn by-pass ball valve to the ON position.
2. Turn rodder or handgun ball valve to the OFF position.
3. Turn engine back down to an idle.
4. Disengage auxiliary engine clutch.

*Note:* To drain the water tank, open the toolbox on the side of the unit for access to the drain valve.

## COLD WEATHER RECIRCULATION

- 1.) Connect the sewer hose to the cold weather recirculation port located near the hose reel.
- 2.) Turn the ball valve located behind the recirculation port to a open position.
- 3.) Turn the rodder ball valve at the control panel to the on position.
- 4.) Make sure that the rodder valve is in the on position and that the handgun valve is in the off position.
- 5.) Engage the water pump control from inside the cab.

## AIR PURGE INSTRUCTIONS

FIRST- Drain the entire unit. Open the valves on both water tanks and water pump. Once the unit is drained of all water, close the valves on the water pump before using the air purge.

- 1.) With the truck running, place the ball valves in the normal jetting position.
- 2.) Next go to the hose reel and turn the 3-way ball valve to the on position and leave the sewer hose disconnected with no nozzle on it.
- 3.) Turn the air purge to the on position, this will blow all of the water out of the hose reel and may take a few minutes. Once all of the water is out of the hose reel, turn the 3-way ball valve back to the off position.  
CAUTION: This water will come out of hose under pressure.
- 4.) Turn the air purge off and allow the truck unit to build back full air pressure. To do this turn the rodder valve at the manifold to the off position.
- 5.) Connect the handgun to the handgun circuitry. Depress the handle on the handgun, then turn the handgun valve to the on position. Next turn the air purge to the on position with the handle on the handgun depressed, this will cause all of the water in the circuitry to blow out.  
NOTE: If your unit has more than one handgun connection, you will need to perform this procedure at each connection.
- 6.) Shut off all of the valves for the rodder, handgun, and air purge. Let the unit build to full air pressure once again. While the unit is building air pressure go to the water pump and open the 3-needle valves on the pump head. If your unit is an 80 GPM water system, the valves will be located on the front face of the water pump. If your unit is a 65 GPM water system, the valves will be located behind and under the fluid end of the water pump. Once these 3 needle valves are open, go back to the water manifold and turn on the air purge. This will complete you air purge.

## Handgun Operation

### Start-Up

- 1.) Position the vehicle as needed over the work area. Shift to neutral.
- 2.) Set the parking brake.
- 3.) Truck engine at idle.
- 4.) Assure air pressure is a minimum of 90 psi.
- 5.) Depress clutch pedal and shift water pump / hydraulic pump to "in" position.
- 6.) Exit the truck cab and go to the hose reel control panel.
- 7.) Turn rodder control valve to "off" position.
- 8.) Assure that bypass valve is in an "off" position.
- 9.) Connect handgun assembly to quick coupling at manifold midship position.
- 10.) At control panel increase engine RPM's to 1000.
- 11.) To attain water flow depress handgun trigger and slowly increase water pump throttle to attain 800 PSI on water pressure gauge.  
CAUTION: DO NOT EXCEED 1000 PSI WITH TRIGGER RELEASE WILL CAUSE PREMATURE FAILURE ON HANDGUN RELIEF VALVE AND POSSIBLE INJURY TO OPERATOR AND OTHERS.
- 12.) Do necessary cleaning.  
CAUTION: DECREASE WATER PUMP THROTTLE IF HANDGUN WILL NOT BE USED FOR A EXTENDED PERIOD TO PREVENT PREMATURE REGULATOR WEAR.

### Shut-Down

- 1.) Decrease water pump throttle to minimum.
- 2.) Decrease engine RPM's to minimum.
- 3.) Open bypass valve to "on" position.
- 4.) Uncouple handgun assembly and store in toolbox or elsewhere.
- 5.) Enter truck cab.
- 6.) Depress clutch pedal and shift water pump / hydraulic pump to "out" position.

## Controls & Functions

Your AllJet machine is equipped with a variety of controls that enable the machine to perform its primary function, sewer jetting.

The controls are located in several places on the machine. This section of the manual will familiarize you with the location of all controls, their primary function, and any important safety information relating to their proper use.

Note: Some items covered in this section are optional and may not be included in your machine.

## HOSE REEL CONTROLS

- \* Engine throttle control (electric throttle motor type)- used to increase or decrease the engine RPM. This is done by moving the toggle switch up to increase and down to decrease engine RPM's.
- \* Engine throttle control (manual)-used to increase or decrease the engine RPM. Turn counter clockwise to increase and counter clockwise to decrease.
- \* Hose reel tilt- controls the two way movement (up and down) of the hose reel.  
NOTE: This feature is powered by an electrically operated, hydraulic power pack. The ignition switch to the chassis engine must be in the on position before operating.
- \* Hose reel speed control- used to adjust the reel speed. Turn counter clockwise to increase and clockwise to decrease.
- \* Hose reel in / out - used to extend or retract jetting hose on or off the hose reel.
- \* Low water alarm - alerts the operator when the water storage tank is low.  
NOTE: Your system may be equipped with either an audio alarm or visual alarm. Check your control panel to see which type your unit has.
- \* Tachometer - monitors the engine RPM and usage hours.
- \* Hydraulic pressure gauge - used to monitor the hydraulic pressure. Normal hydraulic pressure ranges are between 100-2000 PSI.
- \* Hose reel counter - Used for measuring the length of jetting hose that is extended into the pipe.

## HANDGUN CONTROLS

- \* Handgun plug - used for handgun jetting.  
NOTE: Follow the rodder mode start-up procedure. Once the rodder is on, go to the shroud housing and position the ball valves as indicated.

## SHIFT TOWER CONTROLS

These controls are located inside the cab between the driver and passenger seats.

- \* Road mode shifter - this shifter engages or disengages the driveline from the rear wheels.
- \* Water pump shifter - this shifter engages or disengages the pulley that drives the water pump.
- \* Hydraulics shifter - this shifter engages or disengages the PTO that drives the hydraulic pump.

NOTE: It is important that you follow the proper start-up and shutdown procedures found in the operating section of this manual when using these controls. Improper use could damage the transfer case.

## MAINTENANCE AND LUBRICATION

Regular service procedures are described in this section of the manual and are effective for maintaining your equipment.

NOTE: Some of the items covered in this section are optional and may not be included in your machine.

### General

People who maintain this unit should have an understanding of the equipment and its basic operation. Refer to the operating instructions in the manual. Also, we are providing the Basic Preventative Maintenance information. When you need more detailed information on an individual component, please refer to the Parts Section of this manual. We have tried to supply you with as much individual component maintenance specification literature as possible.

When any adjustments or repairs are made to this unit, extreme care should be taken and all safety precautions and decals observed.

Preventative maintenance routines help keep the equipment in proper working condition. Preventative maintenance is not only desirable, but necessary, since scheduled inspection insures continued trouble-free operation of the equipment. It also prevents, or at least detects, at an early stage, mechanical, hydraulic or electrical troubles that otherwise develop into equipment malfunction.

## PREVENTATIVE MAINTENANCE INSTRUCTIONS

We urge you to protect your AllJet by servicing it according to the Maintenance schedule listed on the following pages. Regular maintenance will ensure maximum unit performance, long unit life, safety, reliability and full warranty protection.

## CHASSIS ENGINE

### Engine Access

- \* Before attempting to raise the chassis hood, tilt the hose reel forward if your unit is equipped with a front hose reel mounting.  
NOTE: Depending on the model AllJet you are operating, the hose reel is tilted with either a manual jack or via a hydraulic power pack. After checking or servicing the engine, always return the hose reel to its stowed position.

### Hydraulic Tilt

- \* Using the toggle switch mounted on the front of the hose reel, tilt the hose reel to its down forward position.

### Engine Oil

- \* While the AllJet is parked on level ground with the engine turned off, check the engine oil level with the supplied dipstick. Oil level should be up to its full mark indicated on the dip stick. If the oil level is low, add the proper grade oil to the full mark. Check the engine oil level daily. Add the proper oil as required to maintain the proper oil level. Also, inspect the engine and components for fluid leaks. Change the engine oil every 150 hours.

### Lube Oil Filter

- \* Change the oil filter every 150 hours or every time the engine oil is changed.

## Engine Coolant

- \* When the engine is cool, check the radiator water level. If the coolant is low, fill to proper level with soft water or antifreeze. Do not overfill. If coolant is repeatedly low, check for the source of coolant loss. Periodic topping of the engine radiator water will eventually dilute the antifreeze mixture. Maintain the proper antifreeze/water ratio according to local weather conditions. Check the coolant daily. If coolant is repeatedly low, check for leaks. Flush and clean the cooling system every 1000 hours. Refill with soft water and a high quality antifreeze.

## Power Steering Fluid

- \* Check the power steering drive pump for proper fluid level. If the fluid level is low, then add the proper fluid level to full mark (see chassis owner's manual). If the fluid is repeatedly low, check the power steering pump for the source of fluid loss.

## Air Cleaner Filter

- \* Check the filter gauge located on the filter housing for the condition of the air cleaner. Remove the element and clean with compressed air at a low pressure. If needed, change the air filter as directed in the chassis owner's manual. Replace annually or more often as needed.

## Battery

- \* Check the liquid level on the 12 volt battery. If the level is low, add distilled water or battery acid as needed. Maintain proper fluid level.

## Engine Belts

- \* Check all belts for proper tension and inspect the belt surfaces for cracking or fraying. Change belts as needed.

## Windshield Washer Fluid

- \* Maintain the proper level of fluid in the washer fluid reservoir.

## Automatic Transmission Fluid

- \* While the engine is running, check the transmission fluid level with supplied dipstick. Fluid level should be up to full mark. If the fluid level is low, add proper grade transmission fluid to the full mark (see chassis owner's manual ). If the fluid level is repeatedly low, check the transmission for the source of the fluid loss. Change the transmission fluid every 1,500 hours as recommended in the owner manual.

## Fuel Tank

- \* Keep the fuel tank filled to reduce condensation. Use only the recommended grade of diesel fuel (see the chassis owner's manual for more information).

## Fuel Filter

- \* The location of the fuel filter will depend on the chassis make that you are operating. Locate the fuel filter and check the filter condition. Change the fuel filter every 300 hours of use or anytime that the fuel system becomes contaminated.

## POWER MODULE

### Hydraulic Oil

- \* Check the hydraulic oil level sight glass on the reservoir located directly behind the chassis cab. Hydraulic oil level should be between the black full-level mark and the red low-level mark. If the oil level is low, add the proper grade of hydraulic oil "HYD AW68". Change the hydraulic oil semi-annually to ensure the long life of all hydraulic components on the AllJet. Change the hydraulic oil anytime it becomes contaminated.

### Hydraulic Suction Filter

- \* Replace the filter semi-annually or anytime the hydraulic oil is changed.

### Hydraulic Return Filter

- \* Replace the filter semi-annually or anytime the hydraulic oil is changed.

### Hydraulic System

- \* Inspect all hydraulic hoses, fittings, central valves and cylinders for cracks, damage or leaks. Repair or replace as required.

### Transfer Case Oil

- \* When the truck unit is cool, check the transfer case oil level with the dipstick provided at the transfer case. The level should be to the full mark on the dipstick.
- \* Over-The-Road Service - initial flush and oil change after 1,000 miles of service, but not to exceed 4,000 miles of service.
- \* Scheduled flush and oil change every 20,000 miles of service after oil change.

## Water Pump Oil

- \* After the first 30 hours of operation, drain the oil from the gearcase (preferable drain at operating temperature), replace plug and refill crankcase with new oil. Change the oil every 300 hours of use. Check the oil level daily and add oil as needed. Oil cleanness is very critical to precision machined parts and seals. Clean oil is the most inexpensive maintenance and can prolong power and part life of the unit.

## Water Pump Strainer Assembly

- \* On the suction side of the water pump, remove the hand nut on the strainer assembly and remove the basket screen. Clean as necessary with water.

## Hose Reel Power Pack Fluid

- \* Check the dipstick on the hose reel power pack fluid reservoir. The power pack is located under the chassis wheel well.  
NOTE: Depending on the chassis make of your unit, the power pack may be located on either the passenger or the driver's side of the chassis.

## Poly-Chain Drive Belt

- \* Inspect the belt that drives the water pump for proper tension. Also inspect for wear, cracks, or fraying. Check the sheave and bushing bolt for tightness. Inspect the guide ring on the sheave and make sure that it is not loose or bent. Check the pulleys for proper alignment.

## Grease Fittings

- \* Grease all fittings weekly

## Shift-Tower Indicator Lights

- \* Inside the cab, check the operation of the (water pump) rodder mode and hydraulic indicator lights located on the shift tower. If an indicator light failure occurs, investigate the possible cause.  
NOTE: Failure to maintain these lights in working order could result in operator error and severely damage the AllJet unit.

## Spicer Transfer Case

Note: To ensure proper lubrication and operating temperatures in your Spicer Transfer Case, it is very important that the specified lubricants be used and that the correct oil levels be maintained. The lubricants listed below are recommended in order of preference for use in all Spicer mechanical transfer cases.

DO NOT USE EXTREME PRESSURE ADDITIVES such as found in multipurpose or rear axle type lubricants. These additives are not required in Spicer transfer cases. Multipurpose oils, as a group, have relatively poor oxidation stability, a high rate of sludge formation, and a greater tendency to reach on or corrode the steel and bronze parts.

TEMPERATURE	GRADE	TYPE
above 0 degrees F	SAE50	Heavy-duty engine oil meeting MIL-L-2104C
below 0 degrees F	SAE30	(Note: Oils meeting MIL-L-2104B or MIL-L-45199 are also acceptable)
above 0 degrees F	FSAE90	straight mineral gear oil - R&O type
below 0 degrees F	FSAE80	

### Oil Changes

Over-the-road service: initial flush and oil change after 1,000 miles of service, but not to exceed 4,000 miles of service.

Scheduled flush and oil change every 20,000 miles of service after initial oil change.

Check oil level 2,000 miles of service. Off-the-road service: initial flush and oil change after 24 hours of service, but not to exceed 100 hours of service. Scheduled flush and oil change every 30 days after initial oil change.

Check oil every 24 hours of service.

Prolonged low RPM or stationary operation: for cases of prolonged low RPM (below 1,000 RPM input to transfer case) or prolonged stationary operation, a lube pump is recommended.

These lube pumps are available on all models of the Spicer transfer cases.

### **Refill**

First remove all dirt around the filter plug. Refill with new oil of recommended grade for the existing season and prevailing service., Fill to the bottom of the plug hose on the side or front of the transfer case.

### **Overfilling**

Do not overfill the transfer case. Overfilling usually results in oil breakdown due to excessive heat and aeration from the churning action of the gears. Early breakdown of the oil will result in heavy varnish and sludge deposits that plug up oil ports and build up on splines and bearings.

## Myers Water Pump

Note: Refer to the Myers pump instruction and service manual for further information relating to the pump.

### Lubrication

Fill gear case with Mobilgear 630 or equal and additive to capacity. Maintain oil level at mark on oil dipstick.

Mobilgear 630 equivalent:

Amoco: Permagear EP220 or Amogear EP220

Chevron: NL Gear Compound 220

Exxon: Spartan EP220

Kendall: NSMP 80w-90

Shell: Omala 220

Standard/Sohio Boron: Gearep 80w-90

Texaco: Meropa 220

Note: After first 30 hours of operation, drain oil from gearcase (preferable drain at operating temperature), replace plug and refill crankcase with new oil as above. Change oil every 300 hours thereafter. Check oil level daily and add oil as needed. Oil cleanliness is very critical to precision machined parts and seals. Clean oil can prolong power and parts' life and it is the most inexpensive maintenance.

### Additives for Crankcase Oil

Use of Molybdenum Disulfide (MoS<sub>2</sub>) is highly recommended by Myers as an additive to the gear case oil in back geared pumps manufactured by Myers. The additive is compatible with all known oils. It is so effective in reducing wear and friction that power train life may be doubled between overhauls. The chart below gives volume of MoS<sub>2</sub> concentrate required.

65 or 80 GPM Pump	Gear Case Capacity Oil	Volume MoS <sub>2</sub> Concentrate or Dispersion "M" for 5%	Volume MoS <sub>2</sub> Concentrate or Dispersion "M" for 10%
DP Series	4 1/2	7 fl oz	14 fl oz
D Series	4 1/2	7 fl oz	14 fl oz

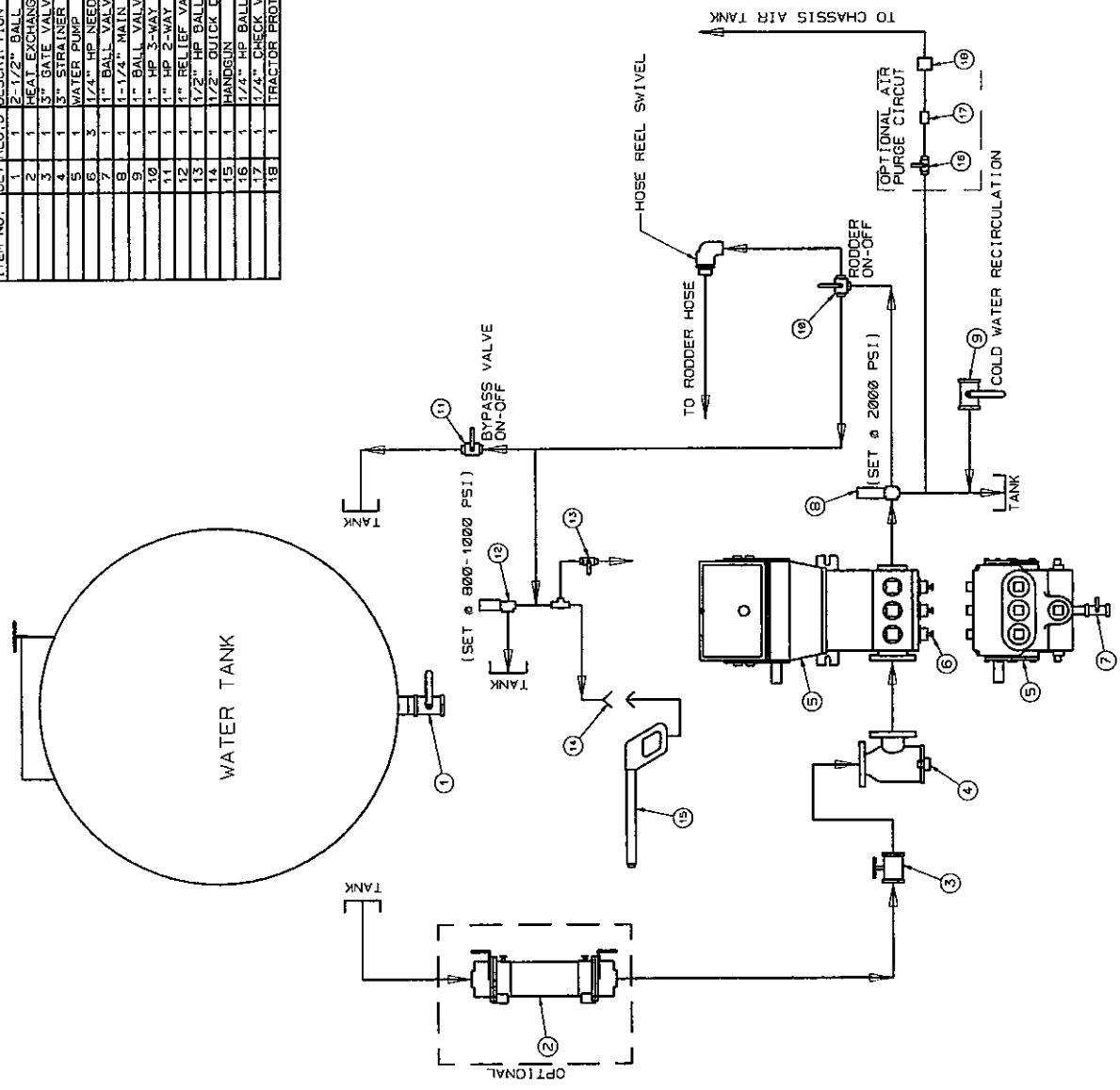
## PART SALES ORDERING PARTS

At some point in time components will break or just wear out during the life of the truck unit. When this time comes, replacement parts are available for purchase through the parts department at VacAll Industries. To order the correct part you must consult with your Operators Manual and have the following information handy when you place an order.

- 1.) Locate the vehicle information page in your manual and have it handy for questions when ordering your parts.
- 2.) Locate the diagram page which shows the component you wish to order and find the description box and the part number next to the part description. You will use this part description when ordering replacement parts.
- 3.) Certain components will vary in slightly in size, and therefore need to be measured for correct replacement.
- 4.) Be sure to specify the manner in which you want your order shipped or we will ship the best possible least expensive freight.

Replacement parts may be purchased from VacAll Industries by calling 1-800-382-8302

ITEM NO.	QTY	REQ. D.	DESCRIPTION
1	1		2 1/2" BALL VALVE (DRAIN)
2	1		SEAT EXCHANGER
3	1		5" GATE VALVE
4	1		3" STRAINER (OPTIONAL)
5	1		WATER PUMP
6	3		1/4" HP NEEDLE VALVE (OPTIONAL)
7	1		1/4" BALL VALVE (OPTIONAL)
8	1		1 1/2" MAIN RELIEF
9	1		1" BALL VALVE (OPTIONAL)
10	1		1" HP 3-WAY BALL VALVE
11	1		1" HP 2-WAY BALL VALVE
12	1		1" RELIEF VALVE
13	1		1/2" BALL VALVE
14	1		1/2" QUICK DISCONNECT
15	1		1/2" BALL VALVE (OPTIONAL)
16	1		1/4" CHECK VALVE (OPTIONAL)
17	1		1/4" CHECK VALVE (OPTIONAL)
18	1		TRACTION PROTECTION VALVE (65 PSI) (OPTIONAL)



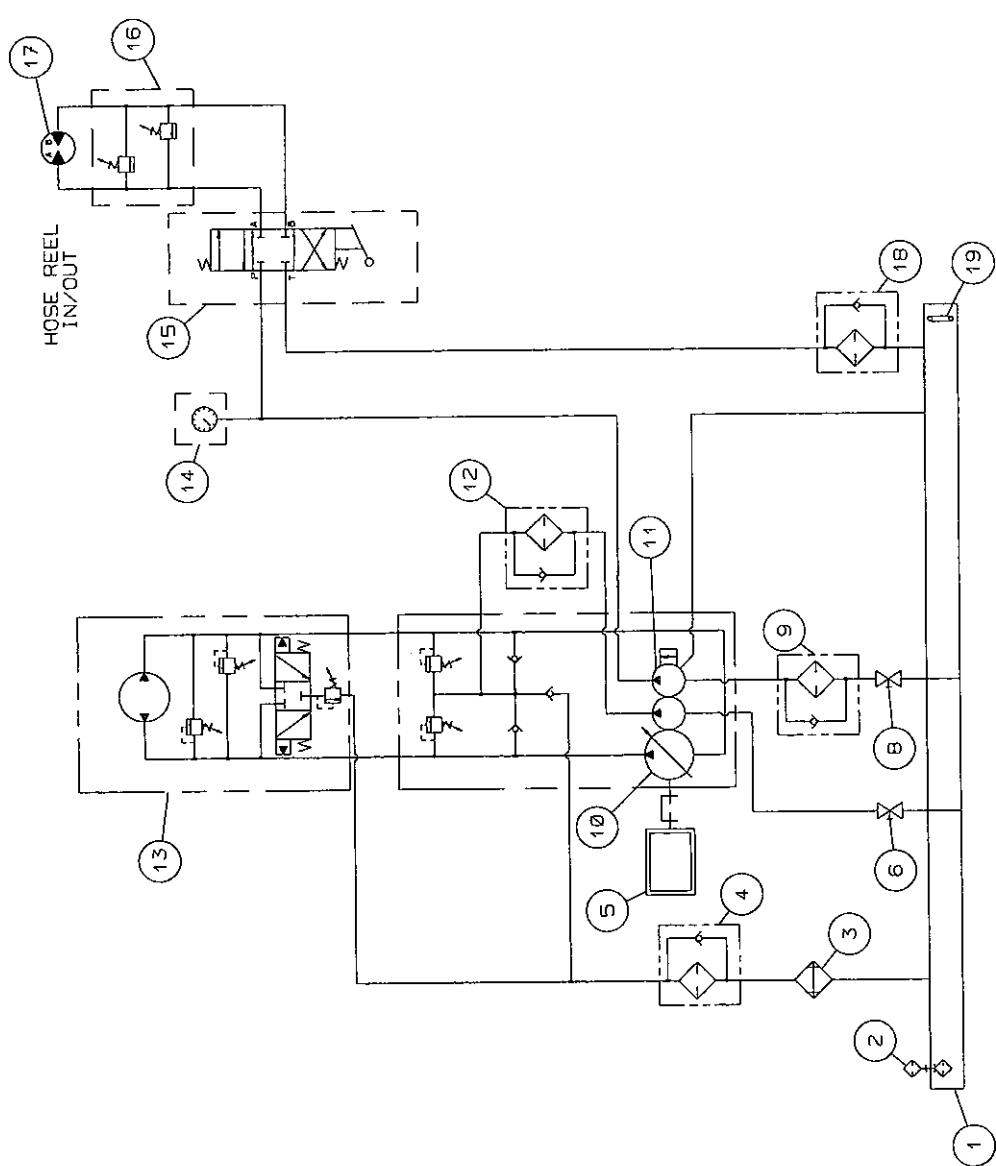
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JETTER  
WATER FLOW SCHEMATIC

DRAWN: SIMS  
 APPROVED: \_\_\_\_\_  
 DATE: 03-02-98  
 SCALE: \_\_\_\_\_  
 SHEET NO: 50170001  
 REV: 1 of 1



ITEM NO.	DET	REG. D	DESCRIPTION
31160013	1		HYDRAULIC TANK
31160001	2		FILLER BREAKER
34240187	3		HEAT EXCHANGER
31160005	4		RETURN FILTER(HYDROSTATICS)
33140004	5		PILOT DEPENDS ON TRANSMISSION
33140001	6		GATE VALVE
33140001	8		GATE VALVE
31160004	9		SUCTION FILTER(GEAR PUMP)
31050029	10		HYDROSTATIC PUMP(LEFT HAND)
31050033	10		HYDROSTATIC PUMP(RIGHT HAND)
31050001	11		GEAR PUMP(CLOCKWISE ROTATION)
31050032	11		GEAR PUMP(COUNTER CLOCKWISE)
31160019	12		FILTER(CHARGE PUMP)
31050023	13		HYDROSTATIC MOTOR
56040012	14		PRESSURE GAUGE
31020031	15		CONTROL VALVE - 1 BANK
31090005	16		HYDRAULIC MOTOR(HOSE REEL)
31050025	17		X - PORT RELIEF
31160002	18		RETURN FILTER(PISTON PUMP)
35010001	19		SIGHT GLASS



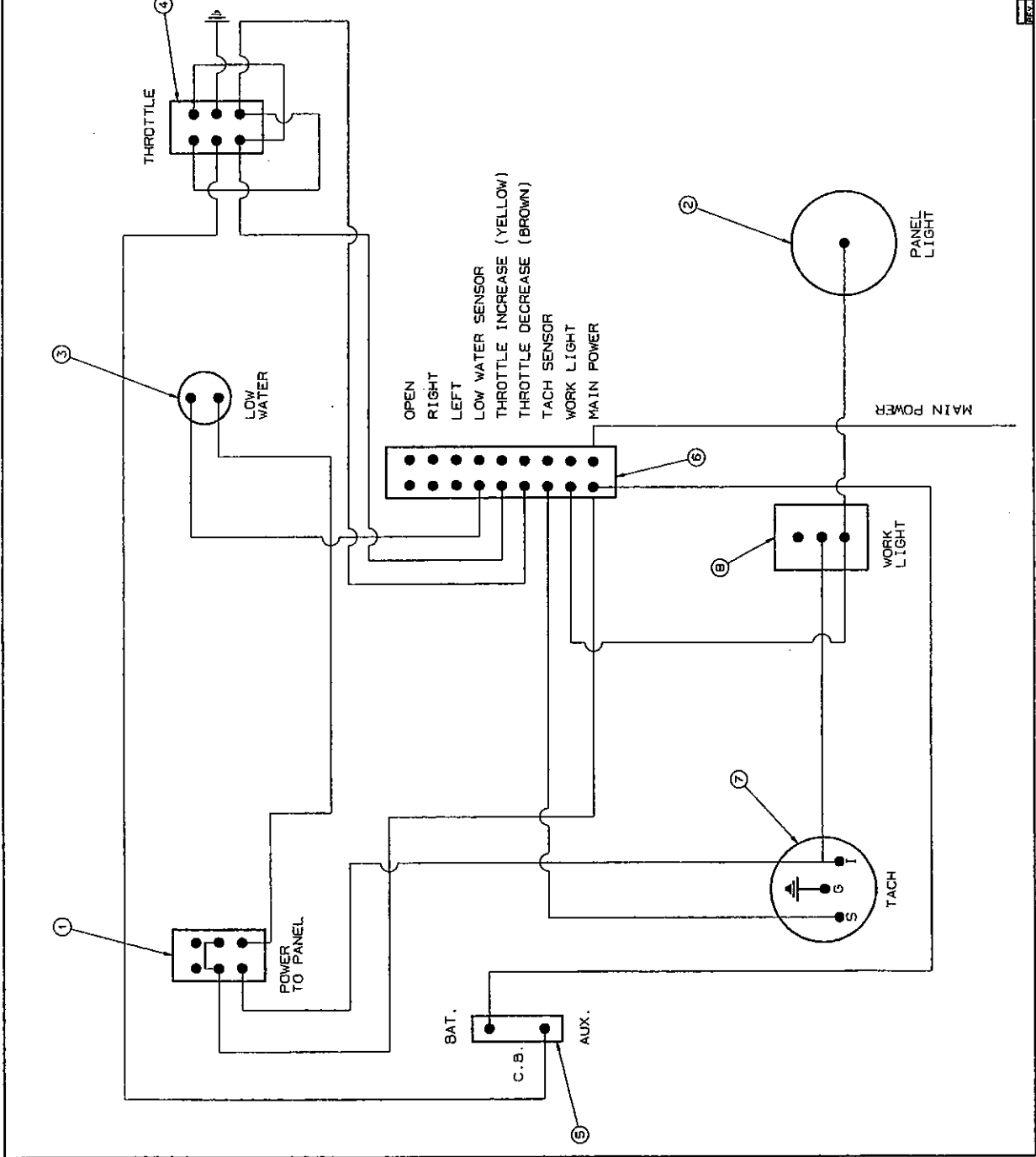
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HYDRAULIC WITH  
SCHEMATIC WITH  
HYDROSTATIC WATER  
PUMP DRIVE

REV.	DESCRIPTION	DATE	BY	CHKD.	SCALE	SHEET	TOTAL
01		01/01			0		

ITEM NO.	DET	REQ'D	DESCRIPTION
35052105	1	1	DOUBLE OFF/ON SWITCH
35031037	2	1	PANEL LIGHT
35030054	3	1	LOW WATER LIGHT (RED)
35052104	4	1	DOUBLE MOM SWITCH
35052033	5	1	15 AMP CIRCUIT BREAKER
350210203	6	9	TERMINAL BLOCKS
35040001	7	1	TACH/HEUR METER
35050115	8	1	SINGLE OFF/ON SWITCH
35040007	*	1	HOFFMAN BOX BRUSH VIBRATOR TYPE
35040114	*	1	COMPRESSION FITTING 1"
35020160	*	2	COMPRESSION FITTING

\* = DETAIL NOT SHOWN



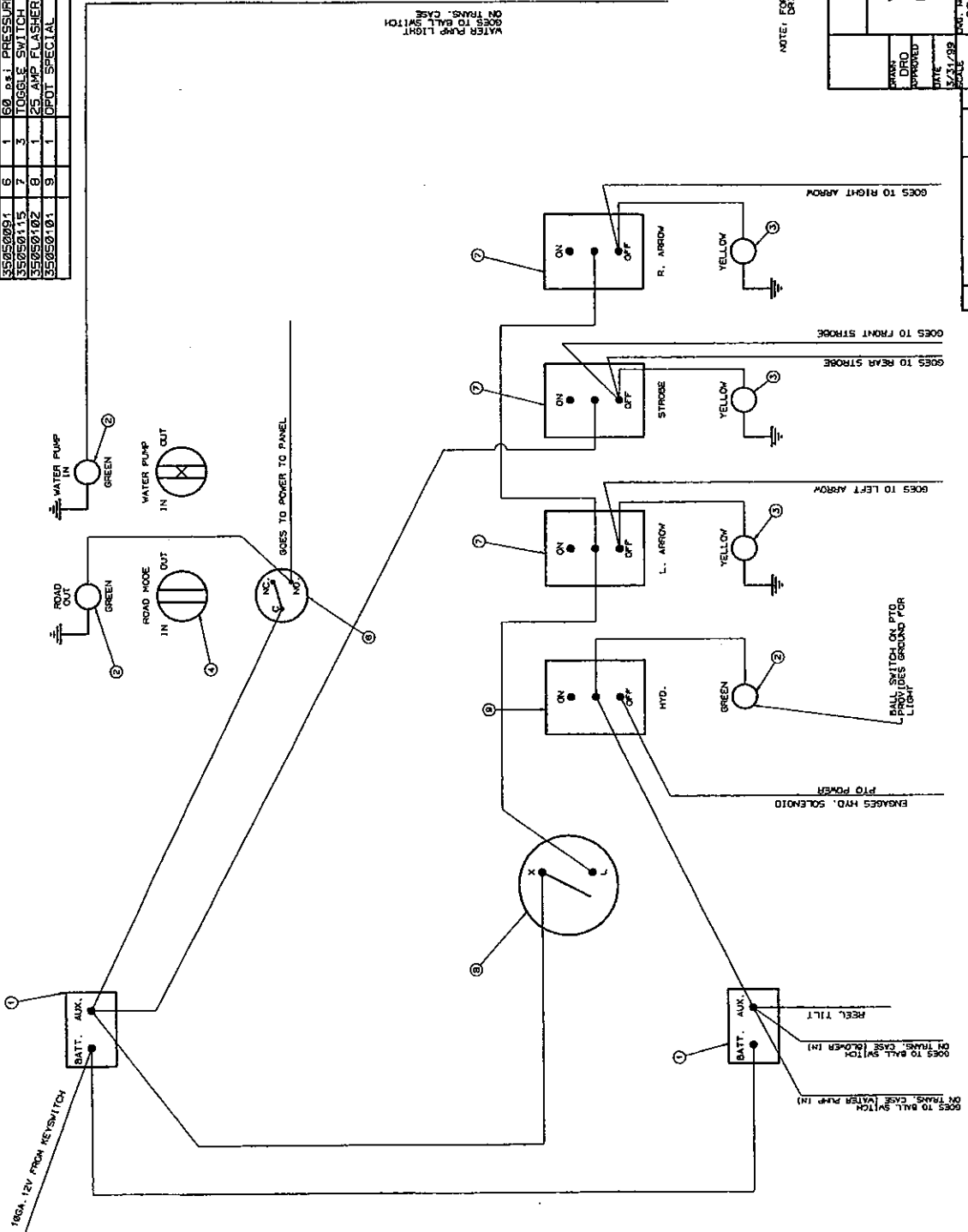
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JETTER CONTROL BOX ELECTRICAL DIAGRAM

TC DRIVEN JETTER

ITEM NO.	DET	REQ'D	DESCRIPTION
350502034	1	2	30M AMP CIRCUIT BREAKER
35030053	2	3	LIGHTS (GREEN)
35040054	3	3	LIGHTS (YELLOW)
30020022	4	2	AIR SHIFTER
35050091	6	1	60 PSI. PRESSURE SWITCH
35050115	7	3	TOGGLE SWITCH
35050102	8	1	25 AMP FLASHER
35050101	9	1	OPDT SPECIAL

NOTE: ROAD MODE OUT ACTIVATES PRESSURE SWITCH.



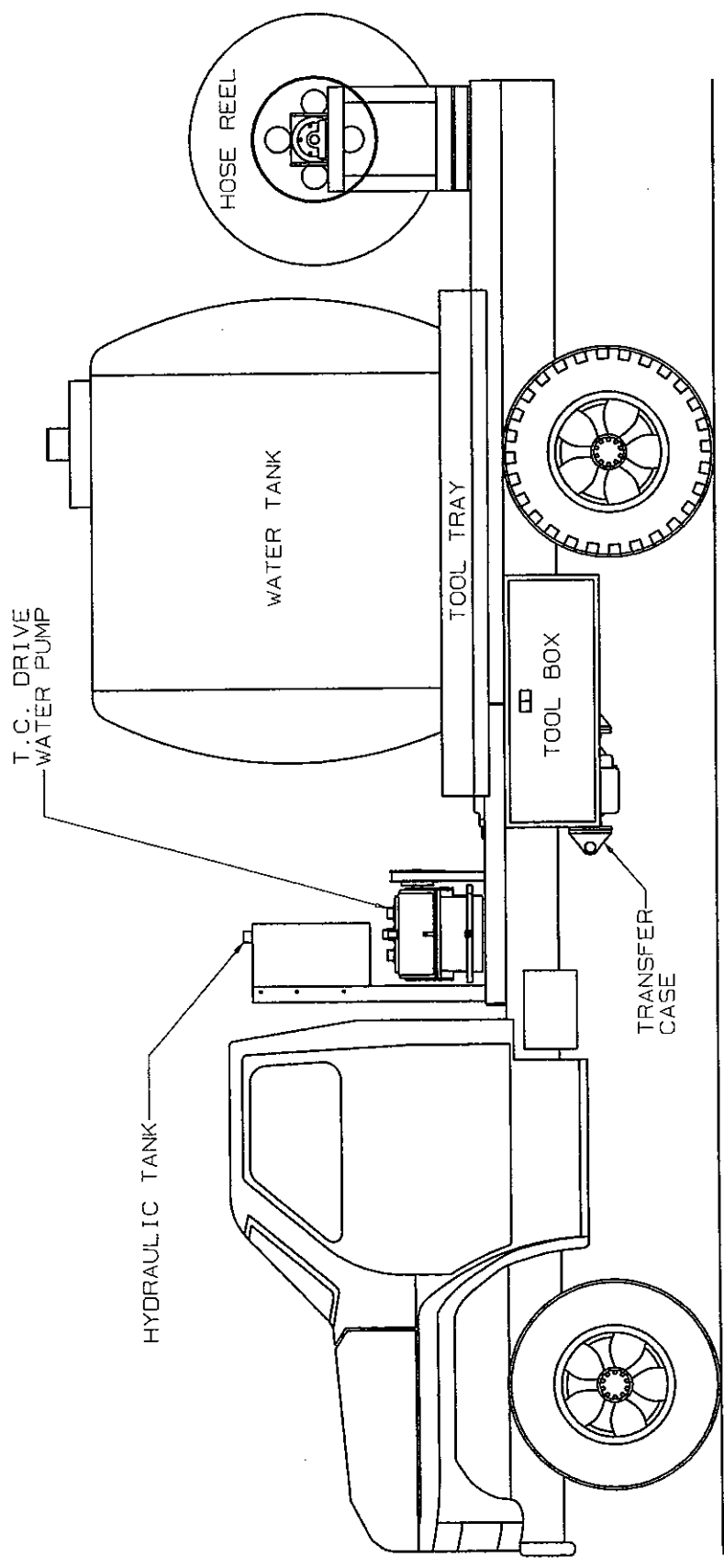
WATER PUMP LIGHT ON TRANS. CASE

NOTE: FOR JETTER T.C. DRIVER

CONFIDENTIAL

WIRING FOR A TRANS. CASE DRIVEN JETTER

DATE	REV.	BY	APP.	NO.	REV.
9/21/99	1	...	...	90160004	1 of 1



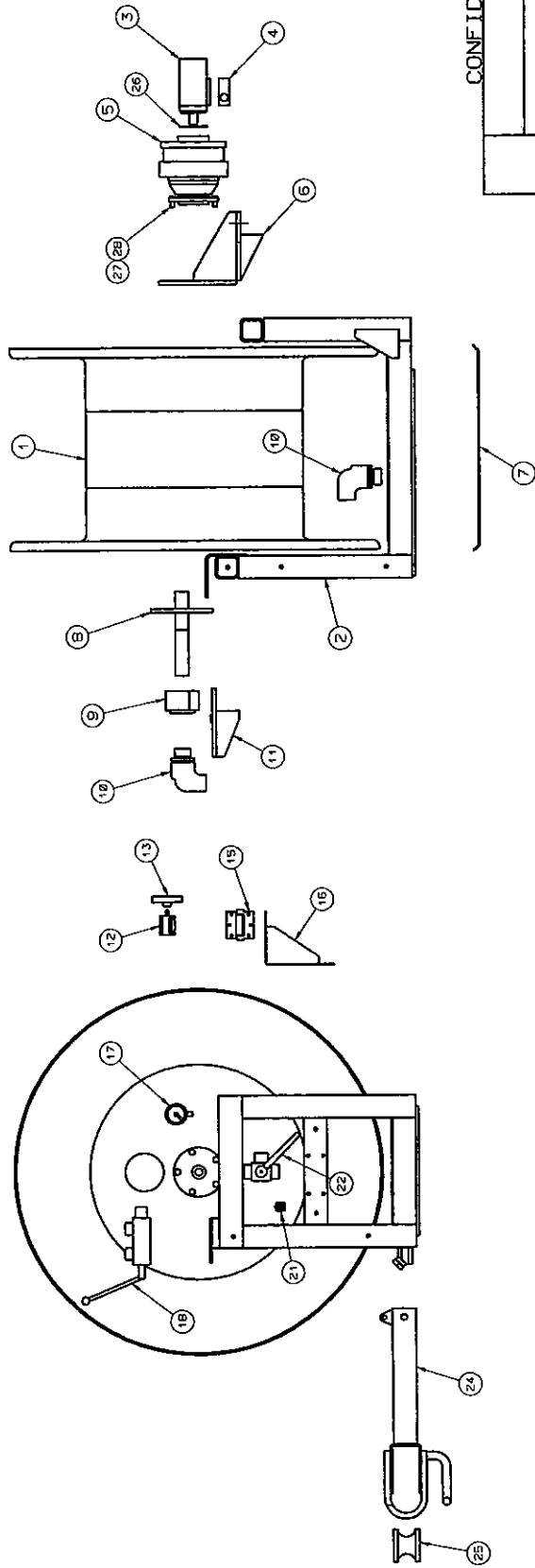
CONFIDENTIAL

DR		T.C. DRIVE JETTER ASSY.	
SIMS		DRAWING NUMBER	
CHD.		REV	
DATE	05-15-98	80040001	0

REV.	BY	DESCRIPTION	DATE

ITEM NO.	QTY	REC'D	DESCRIPTION
700220155	1		HOSE REEL ASSY.
700220158	2		5/16 REEL FRAME
310500028	3		HYDRAULIC MOTOR
310500006	4		VALVE X-PORT RELIEF
370100002	5		ALUMINUM GEAR BOX
700220155	6		GEAR BOX MOUNT
120100007	7		COVER PLATE
700220116	8		AXLE ASSY.
570200012	9		PILLOW BLOCK
590700001	10	2	SWIVEL HP 1 3/8
700220156	11		BEARING SUPPORT
350100023	12		COUNTER RIGHT HAND
350100010	13		COUNTER WHEEL
340100001	15		SPRING HINGE
700220123	16		COUNTER BRACKET
350100034	17		PRESSURE GAUGE
310200031	18		CONTROL VALVE
300200024	21		TOSGLE SWITCH FOR AIR BRAKE
511700001	22		BALL VALVE
700220126	24		LEVEL WIND ASSY.
570200079	25		LEVEL WIND ROLLER
570300048	26		O-RING 1.51 BN70
540300021	27		STUD 1/2-20
540400003	28		NUT 1/2-20

\* = PART AND PART NUMBER MAY VARY FOR 3/4" OR 1-1/4" WATER SYSTEMS.



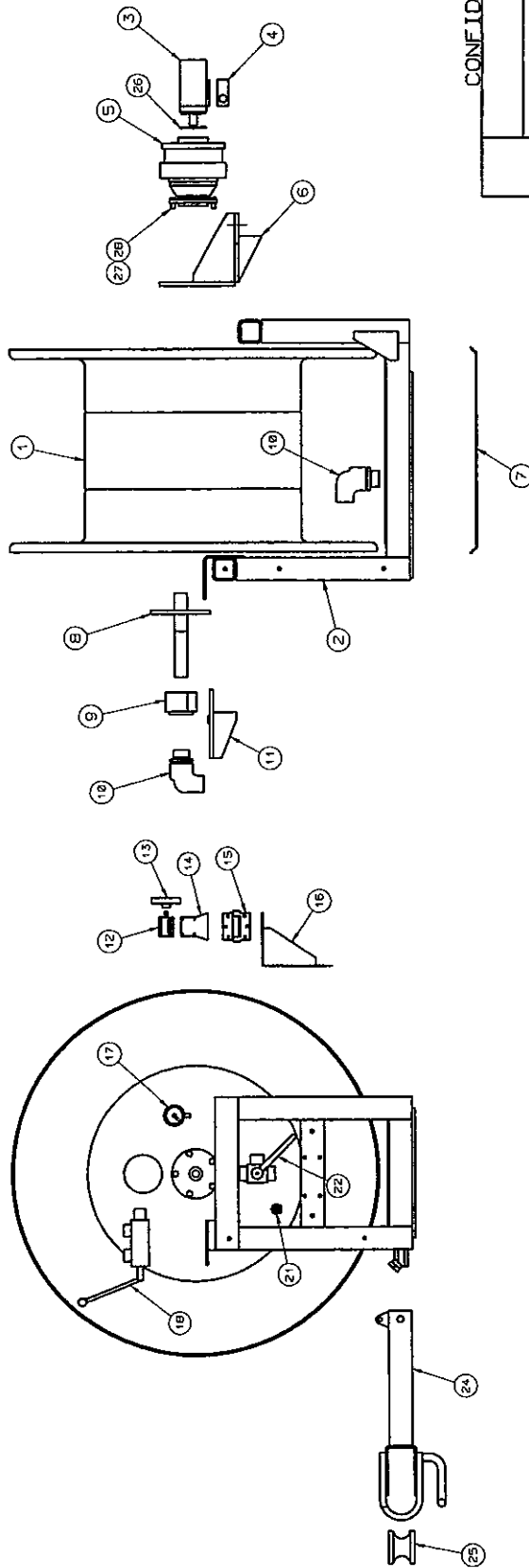
CONFIDENTIAL

STANDARD 600 FT. FRONT MOUNT HOSE REEL ASSY.

DATE: 04-21-95  
 DRAWN BY: RYVA  
 CHECKED BY: RYVA  
 PART NO.: 580040501  
 SHEET: 1 OF 1

ITEM NO.	DET	REQ.	DESCRIPTION
70020113	1	1	HOSE REEL ASSY.
70020111	2	1	S/V REEL FRAME
31050028	3	1	HYDRAULIC MOTOR
31050005	4	1	VALVE X-FORT RELIEF
37010002	5	1	AUBURN GEAR BOX
70020118	6	1	GEAR BOX MOUNT
12010007	7	1	COVER PLATE
70020116	8	1	AXLE ASSY.
37020012	9	1	PILLOW BLOCK
35070001	10	2	SWIVEL HP 1 90
70020117	11	1	BEARING SUPPORT
35010023	12	1	COUNTER RIGHT HAND
35010010	13	1	COUNTER WHEEL
12010079	14	1	COUNTER MOUNT
34010001	15	1	SPRING HINGE
70020123	16	1	COUNTER BRACKET
35010034	17	1	PRESSURE GAUGE
31020031	18	1	CONTROL VALVE
30020004	21	1	TOGGLE SWITCH FOR AIR BRAKE
31170001	22	1	BALL VALVE
12010094	23	1	COVER SHIELD
70020125	24	1	LEVEL WIND ASSY.
37020075	25	1	LEVEL WIND ROLLER
37030048	26	1	O-RING 151 BN70
34030021	27	4	STUD 1/2-20
34040003	28	4	NUT 1/2-20

\* = PART AND PART NUMBER MAY VARY FOR 3/4" OR 1-1/4" WATER SYSTEMS.



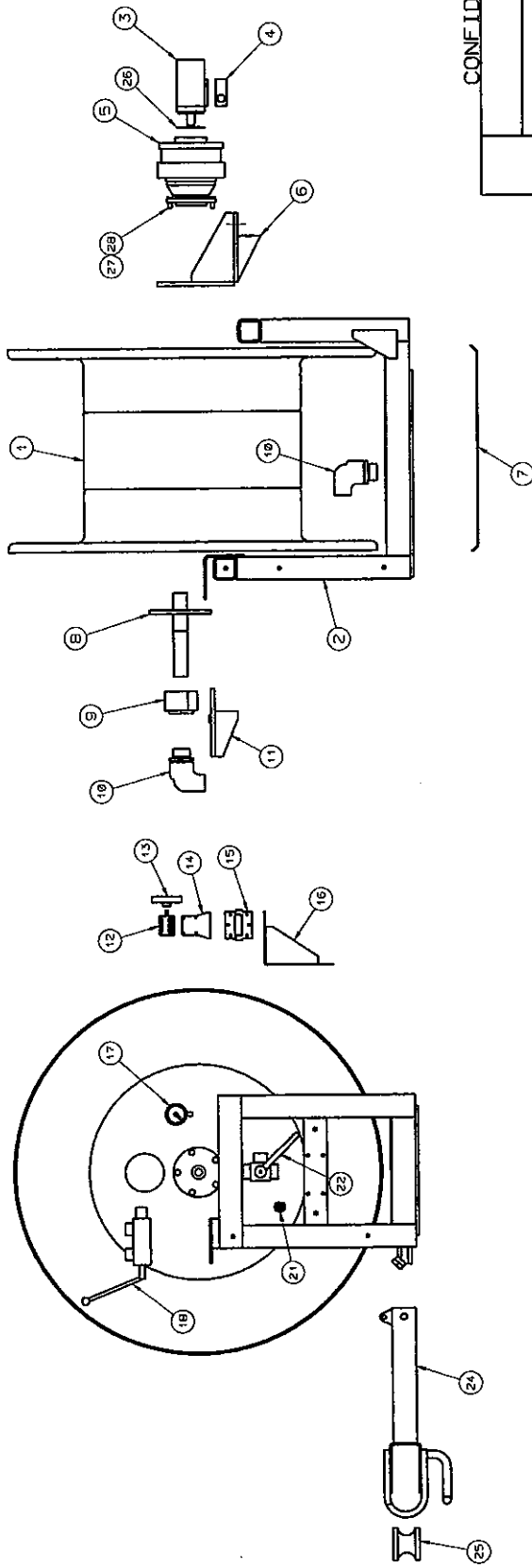
CONFIDENTIAL

STANDARD 800 FT.  
SIMS FRONT MOUNT  
HOSE REEL ASSY.

REV.	1	OF	1	D
DATE	10/1/74	BY	WVA	
SCALE	AS SHOWN			
PART. NO.	B0040506			
REV.				

ITEM NO.	DET	REQ.	D	DESCRIPTION
70020114	1			HOSE REEL ASSY.
70020112	2			S/V REEL FRAME
310650026	3			HYDRAULIC MOTOR
310950006	4			VALVE X-PORT RELIEF
37010002	5			AUBURN GEAR BOX
70020118	6			GEAR BOX MOUNT
12010007	7			COVER PLATE
70020116	8			AXLE ASSY.
37020012	9			PILLOW BLOCK
35070001	10	2		SWIVEL HP 1 96
70020117	11			BEARING SUPPORT
35010023	12			COUNTER RIGHT HAND
35010010	13			COUNTER WHEEL
12010079	14			COUNTER MOUNT
34010001	15			SPRING HINGE
70020123	16			COUNTER BRACKET
35010034	17			PRESSURE GAUGE
31020031	18			CONTROL VALVE
30020004	21			TOGGLE SWITCH FOR AIR BRAKE
31170001	22			BALL VALVE
70020126	24			LEVEL WIND ASSY.
37020076	25			LEVEL WIND ROLLER
37030049	26			O-RING 151 BN70
34030021	27			STUD 1/2-20
34040003	28			NUT 1/2-20

\* = PART AND PART NUMBER MAY VARY FOR 3/4" OR 1-1/4" WATER SYSTEMS.



CONFIDENTIAL

STANDARD 1000 FT.  
FRONT MOUNT  
HOSE REEL ASSY.

DATE: 08-28-95  
APPROVED: [Signature]

REV. 1 OF 1

REV. 1 OF 1

REV. 1 OF 1

REV. 1 OF 1

REV. 1 OF 1

REV. 1 OF 1

REV. 1 OF 1

REV. 1 OF 1

REV. 1 OF 1

REV. 1 OF 1

REV. 1 OF 1

REV. 1 OF 1

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REV. 1 OF 1

REV. 1 OF 1

REV. 1 OF 1

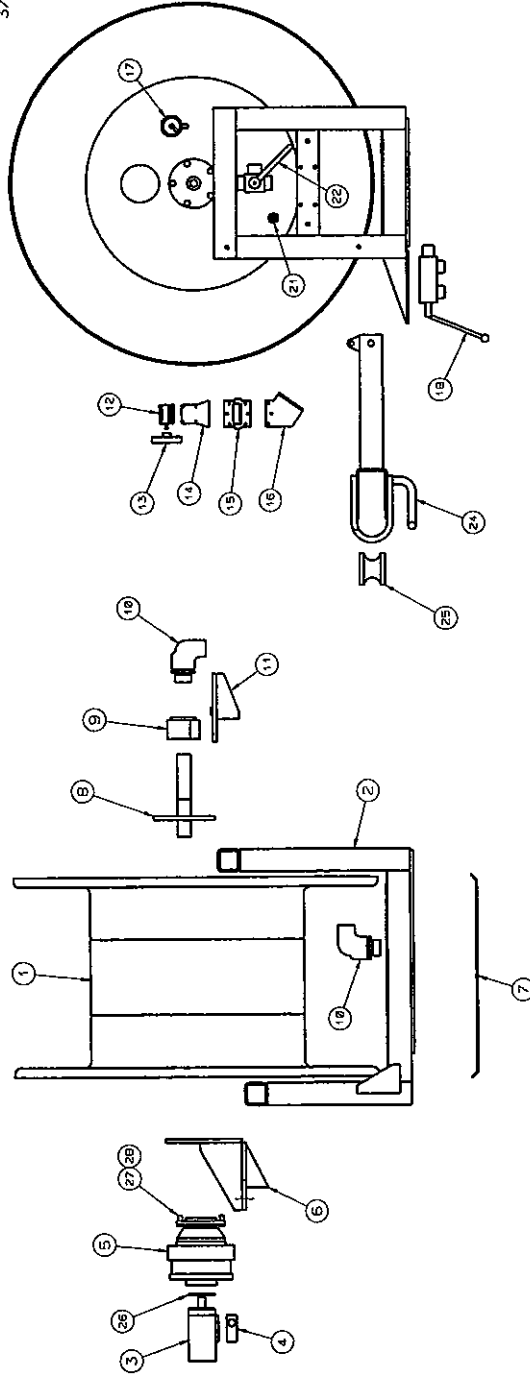
REV. 1 OF 1

REV. 1 OF 1

REV. 1 OF 1

ITEM NO.	DET	REQ.	DESCRIPTION
70020113	1	1	MOTOR REEL ASSY
70020109	2	1	SOV REEL FRAME
31050026	3	1	HYDRAULIC MOTOR
31050006	4	1	VALVE X-PORT RELIEF
37010002	5	1	AUBURN GEAR BOX
70020118	6	1	GEAR BOX MOUNT
12010027	7	1	COVER PLATE
70020157	8	1	AXLE ASSY
37020012	9	1	PILLOW BLOCK
35070001	10	2	SWIVEL HP 1.90
70020117	11	1	BEARING SUPPORT
35010017	12	1	COUNTER LEFT HAND
35010010	13	1	COUNTER WHEEL
12010079	14	1	COUNT
34010001	15	1	SPRING HINGE
12010019	16	1	COUNTER MOUNT
35010034	17	1	PRESSURE GAUGE
31020031	18	1	CONTROL VALVE
30020004	21	1	TOGGLE SWITCH FOR AIR BRAKE
31170001	22	1	BALL VALVE
70020126	24	1	LEVEL WIND ASSY
37020075	25	1	LEVEL WIND ROLLER
37030049	26	1	O-RING 151 BN70
34030021	27	4	STUD 1/2-20
34040003	28	4	NUT 1/2-20

\* PART AND PART NUMBER MAY VARY FOR 3/4" OR 1-1/4" WATER SYSTEMS.



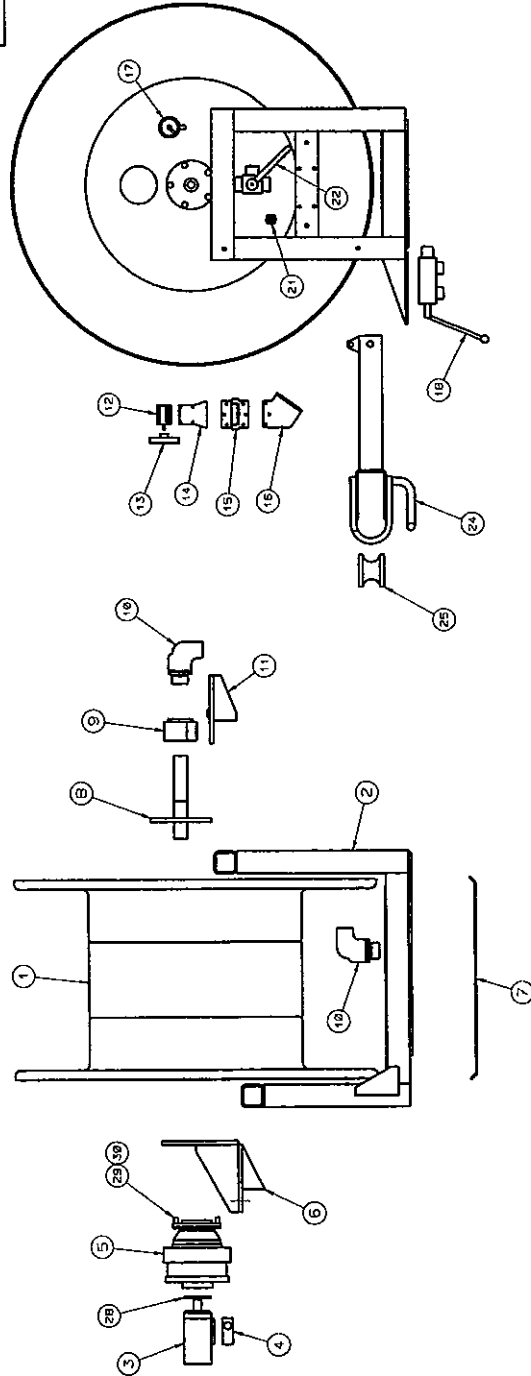
CONFIDENTIAL

STANDARD 600 FT.  
REAR MOUNT  
HOSE REEL ASSY.

DATE	BY	CHKD.	NO.	REV.
08-20-08	07/14	08040506	1	0

ITEM NO.	DET	REQ.	D	DESCRIPTION
700220113	1	1		HOSE REEL ASSY.
700220129	2	1		S.V. REEL FRAME
310520026	3	1		HYDRAULIC MOTOR
510920006	4	1		VALVE X-FORT RELIEF
570120002	5	1		ALUMIN. GEAR BOX
700220118	6	1		GEAR BOX MOUNT
120100027	7	1		COVER PLATE
700220115	8	1		AXLE ASSY.
570220012	9	1		PILLOW BLOCK
590270004	10	2		SWIVEL HP 1.90
700220117	11	1		BEARING SUPPORT
350100117	12	1		COUNTER LEFT HAND
350100118	13	1		COUNTER RIGHT HAND
120100028	14	1		COUNTER MOUNT
540100029	15	1		SPRING HINGE
120100019	16	1		COUNTER MOUNT
350100032	17	1		PRESSURE GAUGE
310220031	18	2		CONTROL VALVE
300220024	21	1		TOGGLE SWITCH FOR AIR BRAKE
311700001	22	1		BALL VALVE
700220125	24	1		LEVEL WIND ASSY.
370220076	25	1		LEVEL WIND ROLLER
370320048	28	1		O-RING 151 BN70
340320231	29	4		STUD 1/2-20
340420203	30	4		NUT 1/2-20

\* = PART AND PART NUMBER MAY VARY FOR 3/4" OR 1-1/4" WATER SYSTEMS.



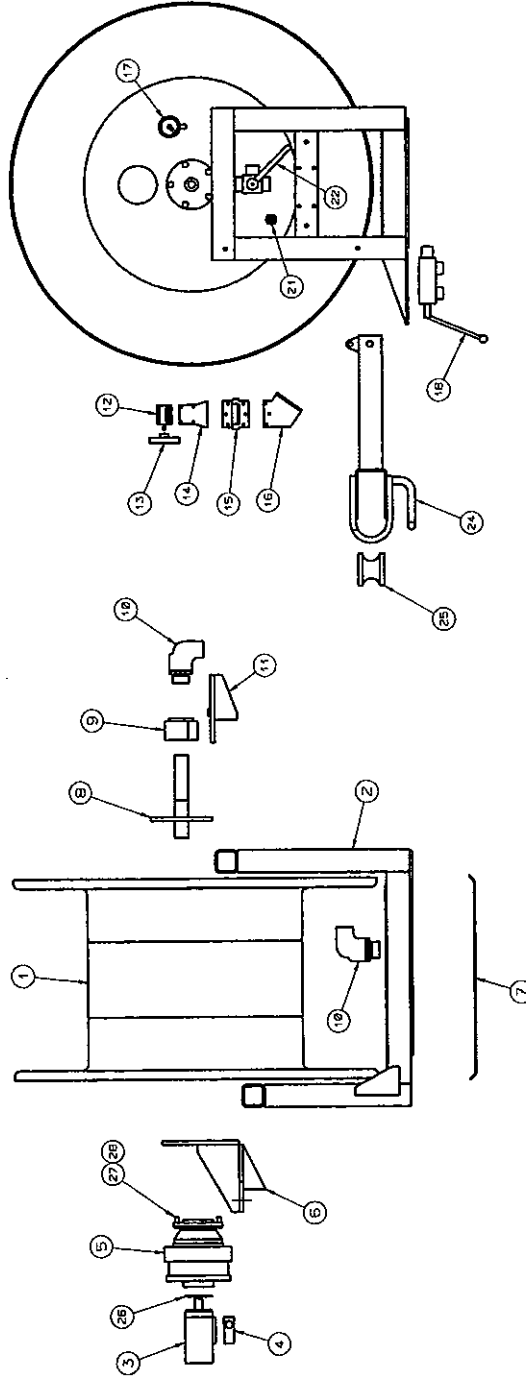
CONFIDENTIAL

DATE	REV.	DESCRIPTION	DATE	REV.	DESCRIPTION

STANDARD 800 FT.  
REAR MOUNT  
HOSE REEL ASSY.

ITEM NO.	QTY	REQ'D	DESCRIPTION
70020114	1	1	HOSE REEL ASSY.
70020114	2	1	HOSE REEL FRAME
31020025	3	1	HYDRAULIC MOTOR
31020025	4	1	VALVE FOR RELIEF
37010202	5	1	SEAL BOX
70020115	5	1	SEAL BOX MOUNT
12010007	6	1	COVER PLATE
70020115	6	1	AXLE ASST.
37020012	8	1	SWIVEL BLOCK
35070001	10	2	SWIVEL
35070001	11	1	BEARING SUPPORT
35010017	12	1	COUNTER LEFT HAND
35010018	13	1	COUNTER WHEEL
12010075	14	1	COUNTER MOUNT
34010001	15	1	SPRING HINGE
12010019	16	1	COUNTER MOUNT
35010034	17	1	PRESSURE GAUGE
31020031	18	1	CONTROL VALVE
30020004	21	1	TOGGLE SWITCH FOR AIR BRAKE
31120001	22	1	BALL VALVE
70020126	24	1	LEVEL WIND ASSY.
37020075	25	1	LEVEL WIND ROLLER
37020049	26	1	O-RING 1.51 BN70
34030021	27	4	STUD 1/2-20
34040003	28	4	NUT 1/2-20

\* = PART AND PART NUMBER MAY VARY FOR 3/4" OR 1-1/4" WATER SYSTEMS.



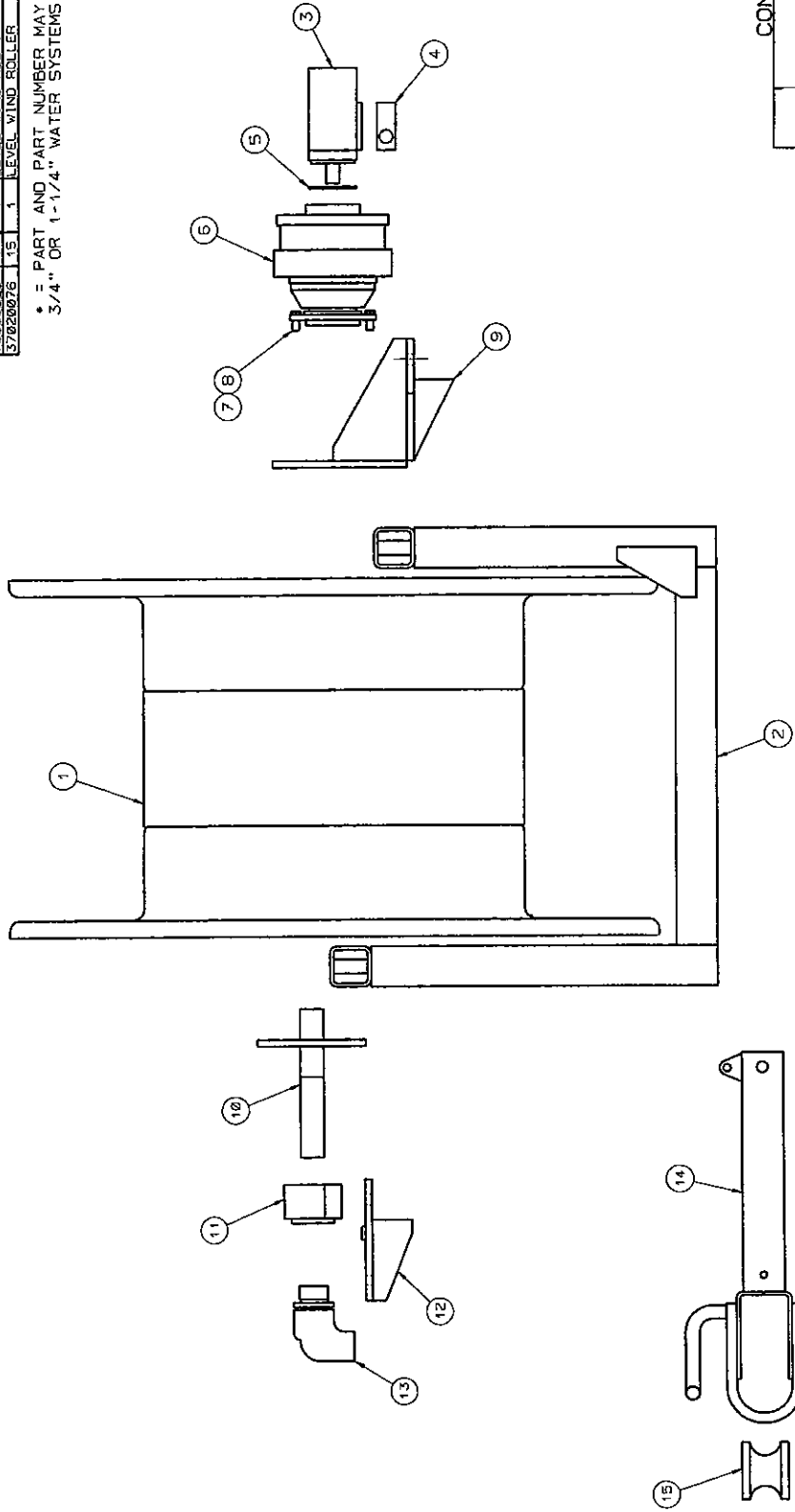
**CONFIDENTIAL**

STANDARD 1000 FT.  
REAR MOUNT  
HOSE REEL ASSY.

DATE: 06-29-98  
SCALE: 1 OF 1  
REV: 0  
SHEET: 1 OF 1  
REV: 0

ITEM NO.	DET	REQ.D	DESCRIPTION
70020113	1	1	HOSE REEL ASSY.
70030506	2	1	SJ REEL FRAME
31060026	3	1	HYDRAULIC MOTOR
31090006	4	1	VALVE X-PORT RELIEF
37030048	5	1	O-RING 151 BN70
37010002	6	1	ALBURN GEAR BOX
34030021	7	4	STUD 1/2-20
34040003	8	4	NUT 1/2-20
70020116	9	1	GEAR BOX MOUNT
70020116	10	1	AXLE ASSY.
70020012	11	1	PILLOW BLOCK
70020117	12	1	BEARING SUPPORT
59070001	13	1	SWIVEL HP 1 90
70030529	14	1	LEVEL WIND ASSY.
37020076	15	1	LEVEL WIND ROLLER

\* = PART AND PART NUMBER MAY VARY FOR 3/4" OR 1-1/4" WATER SYSTEMS.



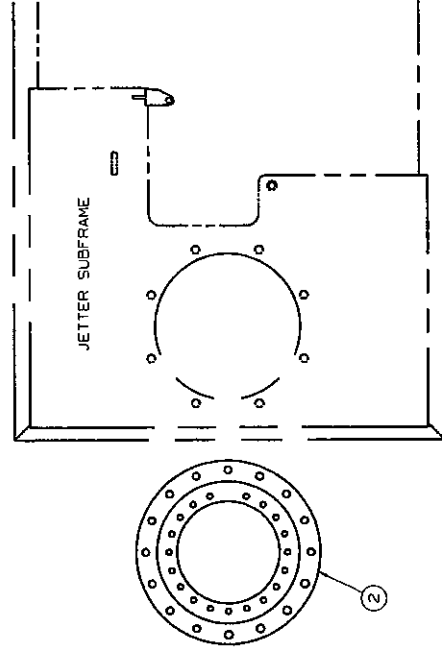
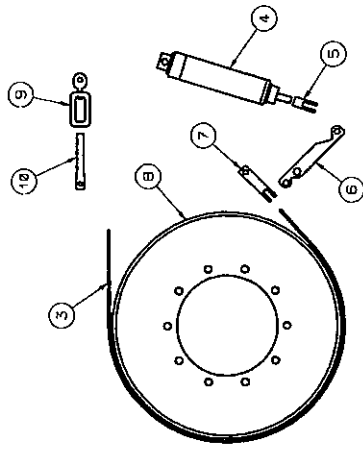
CONFIDENTIAL

STANDARD 800 FT.  
AE JETTER  
HOSE REEL ASSY.

REV. DESCRIPTION	DATE	BY	CHKD. BY	QTY.	UNIT	REMARKS
	02-15-98			1	or 1	



ITEM NO.	DET	REQ.	DESCRIPTION
37022014	2	1	HOSE REEL ROTATION BEARING
700220122	3	1	BRAKE BAND
300330022	4	1	BMBA AIR CYLINDER
300330023	5	1	AIR CYLINDER CLEVIS
120101008	6	1	S.V. HOSE REEL BRAKE ARM
700220144	7	1	HOSE REEL BRAKE BAND CLEVIS
700220119	8	1	HOSE REEL BRAKE DRUM ASSEMBLY
340500205	9	1	ADJ. HANGER ROD
340500209	10	1	SPADE BOLT



CONFIDENTIAL

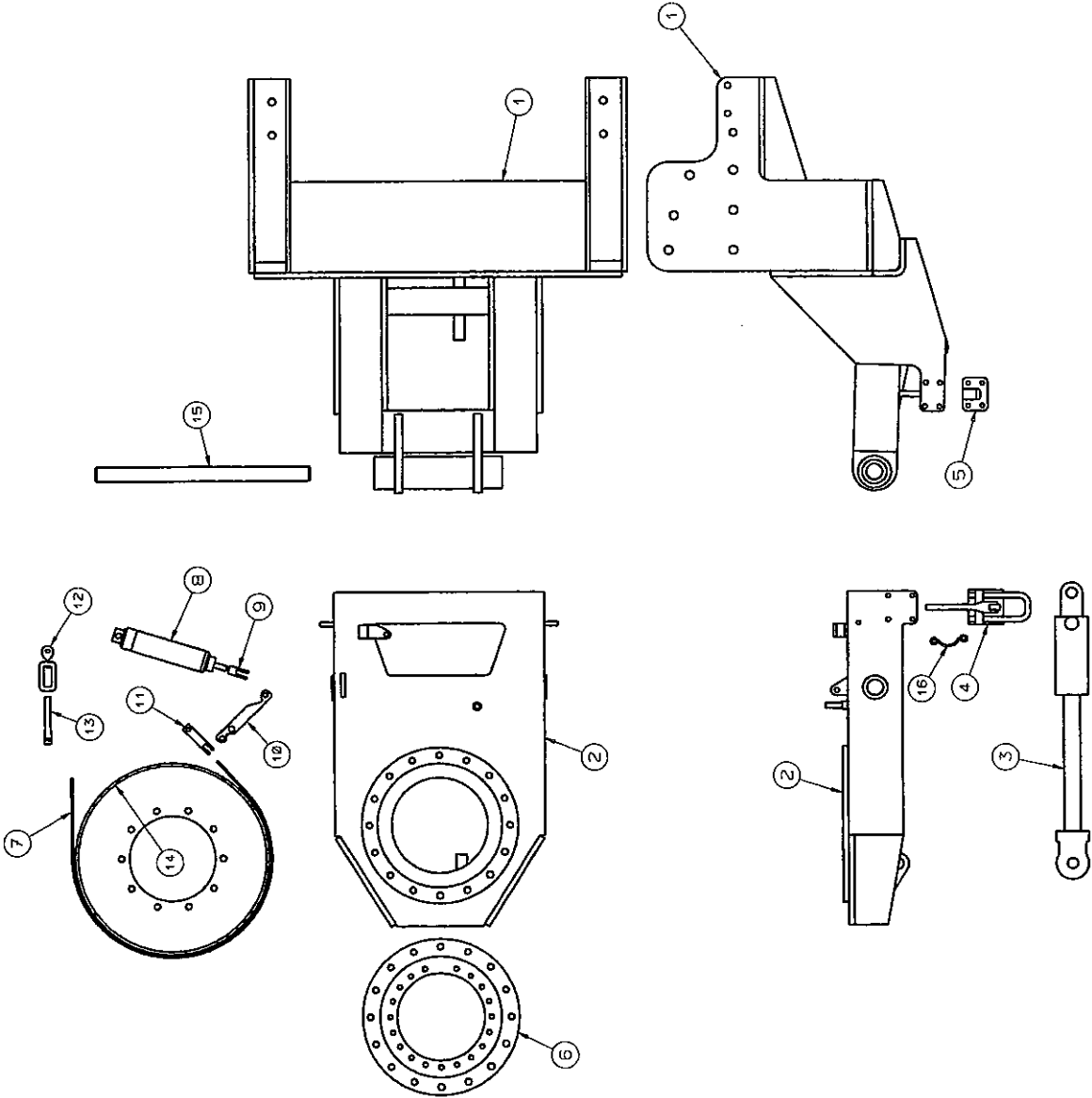
PRINTING APPROVED	DATE	REV. 15-BE	SCALE	DRW. NO.	SHEET	REV.
				50040502	1 OF 1	0

REAR MOUNT  
HOSE REEL  
MOUNT ASSEMBLY

REV. DESCRIPTION	DATE	BY

ITEM NO.	DET	REQ.	DESCRIPTION
	1	1	HOSE REEL BUMPER MOUNT
720220112	2	1	HOSE REEL BASE
310320074	3	1	SJV HOSE REEL TILT CYLINDER
340220110	4	2	CLAMP MANUAL PULL ACTION W/LOCK
340220111	5	2	LATCH PLATE
370220014	6	1	HOSE REEL ROTATION BEARING
720220122	7	1	BRAKE BAND
390320082	8	1	BUMBA AIR CYLINDER
390320083	9	1	AIR CYLINDER CLEVIS
120120109	10	1	SJV HOSE REEL BRAKE ARM
720220144	11	1	HOSE REEL BRAKE BAND CLEVIS
340520095	12	1	ADJ. WANSER ROD
340520095	13	1	SPADE BOLT
720220119	14	1	HOSE REEL BRAKE DRUM ASSY.
120120126	15	1	PIVOT PIN
341320097	16	2	LANYARD

\* = BUMPER MOUNT VARIES DEPENDING ON CHASSIS MODEL

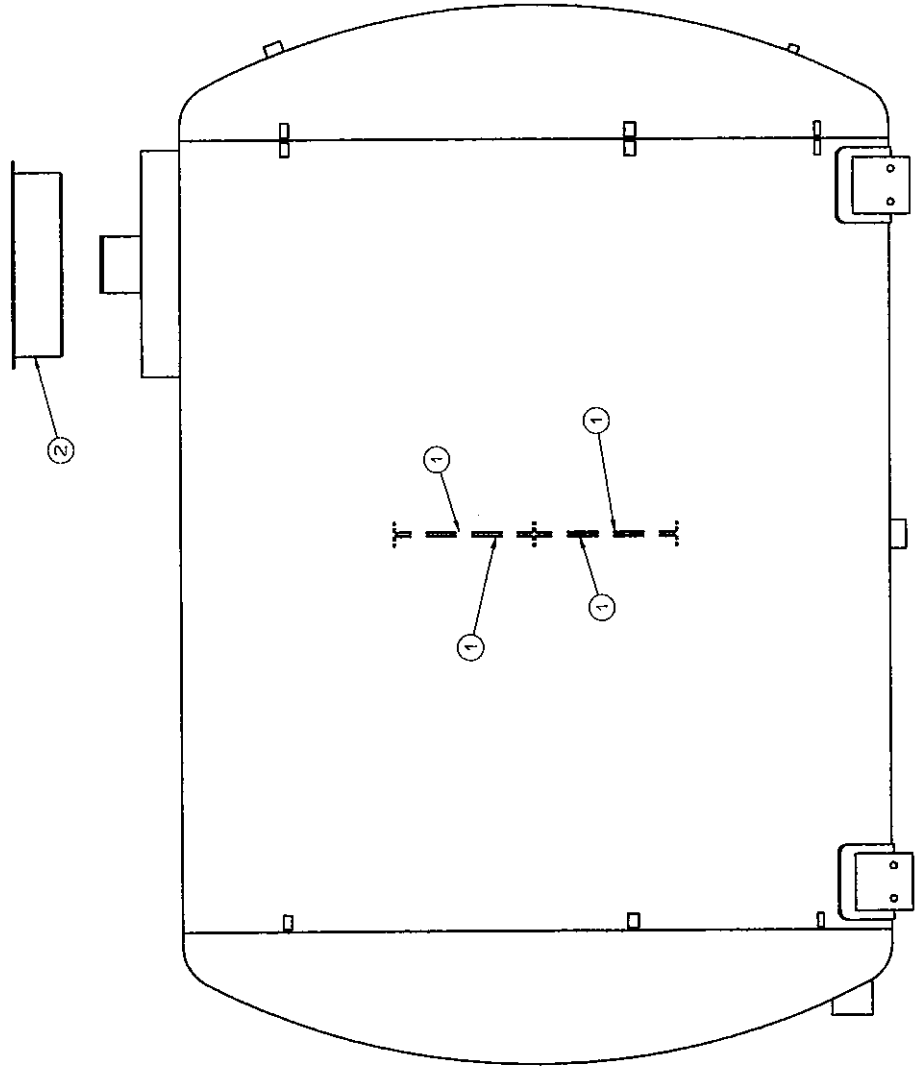


**CONFIDENTIAL**

DRAWN: \_\_\_\_\_  
 SIMS APPROVED: \_\_\_\_\_  
 DATE: \_\_\_\_\_  
 DESIG: 15-98  
 SCALE: \_\_\_\_\_  
 PART NO.: B2040505  
 SHEET: 1 of 1

FRONT MOUNT  
HOSE REEL  
MOUNT ASSEMBLY

ITEM NO.	DET	REQ. D	DESCRIPTION
13042006	1	4	BAFFLE PLATE
Z0932408	2	1	STRAINER BASKET



CONFIDENTIAL	
PRINTED BY	DATE
DESIGNED BY	SCALE
APPROVED BY	PROJECT NO.
DATE	REV.
85-15-38	1
80040401	1 of 1

JETTER TANK

REV. DESCRIPTION QTY UNIT