

MITCHELL
EQUIPMENT
CORPORATION
PARTS/SERVICE MANUAL

PRODUCT POWER SLIDE COUPLER

MODEL NO. CAT 824H

SERIAL NO. *CAT0824HHA5X00216*

5275 N. Ann Arbor Rd.* Dundee, MI 48131 * 734-529-3400 fax 734-529-3433

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AM	S
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16	TORQUE CHART	1	A-17861
15	WARRANTY	1	A-12309
14	LABELS	1	A-17638
13	AIR HORNS	1	A-33892
12	T.A.B.S.	1	D-37929
11	CONTROL PANEL	1	D-38141
10	REAR HYD. PIN LIFT	1	C-15948
9	REAR POWER SLIDE ASS'Y	1	D-38257
8	REAR MOUNT KIT	1	D-38035
7	FRT HYD PIN LIFT	1	C-15948
6	FRT POWER SLIDE ASS'Y	1	D-38256
5	FRONT MOUNT KIT	1	D-38032
4	RAILCAR MOVING PROC.	1	A-15264
3	OIL TEST	1	A-19584
2	OUTGOING INSPECTION	1	A-33672
1	INCOMING INSPECTION	1	A-33671
NO.	DESCRIPTION	QTY	PART NO.

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REVISIONS

ITEM	DATE	CHANGE	APRV

MITCHELL ME EQUIPMENT CORPORATION

SCALE: NONE
DATE: 6-27-08

CAT 824H

DRAWN BY
NCB

MASTER ASSEMBLY

PIN: *CAT0824HHA5X00216*

DRAWING NUMBER
A-38255

MACHINING TOLERANCES

UNLESS OTHERWISE SPECIFIED ON DWG.
2 PLACES = ±0.031
3 PLACES = ±0.015
4 PLACES = ±0.008

WELDING TOLERANCES

UNLESS OTHERWISE SPECIFIED ON DWG.
2 PLACES = ±0.094
3 PLACES = ±0.063
4 PLACES = ±0.031

Rail Car Moving Procedures

Moving Rail Cars with a rubber tired machine equipped with friction drive hi-rail is relatively simple. However, in view of the weights involved, it should always be approached with respect, especially if Train Air Brakes are not being utilized.

Even using Train Air Brakes, the operator has to plan its moves well in advance of their execution, and carry them out in a deliberate manor.

Being Impatient will only result in damage to the Rail Car Mover or possible property damage and injury if the Rail Cars get out of control.

Operators should learn that applying an impact may be effective while coupling rail cars, but releasing the Train Air Brake Mechanisms and setting cars in motion require a slow, conscious application of power.

PRIOR TO ATTEMPTING TO MOVE RAIL CARS, TURN ON THE AIR COMPRESSOR, AND CHARGE THE CAR MOVER TRAIN AIR TANKS TO THE MAXIMUM AIR SYSTEM PRESSURE.

Watch the Air Gages, one gage indicates Rail Car Mover Air Tank pressure; the other gage indicates Rail Car Brake reservoir pressure.

Rail Car Moving Procedure

1. Close the Angle Cocks (Shut off valves) on the Rail Car Mover
2. Release the "EMERGENCY DUMP ALL" Button (if non-momentary switch is used)
3. Rotate the Train Air Brake Controls to the "4th Brake" position
4. Verify the Rail Car Mover Air Tank is maintaining Maximum pressure.
Check for leaks in the Air System if Maximum pressure can't be obtained
5. Couple into the Rail Car, and connect the Train Air Hoses
6. Set the Hand Brake on the Rail Car
7. Check that the Angle Cock (Shut off valve) on the last Rail Car is CLOSED
8. Slowly open the Angle Cocks (Shut off valves) on the Rail Car Mover and Rail Cars,
Leaving the Last Rail Car Angle Cock Closed

Caution must be exercised when opening the Angle Cocks (Shut off valves), to avoid an Emergency Application of the Rail Car Brakes, as this only wastes time and compressed air. Use the same caution when adding rail cars on adjoining tracks.

9. Charge the Rail Cars by selecting "RUN" on the Train Air Brake Controls

Mitchell Equipment Corporation – Rail Car Moving Procedures

Rail Car Moving Procedure (Continued)

10. Observe the second air gage, which indicates the charging of the rail cars.
When the needle reads between 80-95 psi (The pressure varies based on Rail Car Mover set-up during installation of the Train Air Brake System) the rail cars are fully charged and are ready to be moved.
11. Verify the air pressure in the Rail Car Train Air system is maintaining a constant pressure. If there are excessive leaks in the Rail Car Train Air system, the air pressure will reduce at some rate, and controlled braking of the Rail Cars cannot be made.
12. Set the brakes on the Rail Cars by rotating the Train Air Brake Controls to “3rd Brake”
Do Not press the “EMERGENCY DUMP ALL” button, or rotate the Train Air Brake Controls to “DUMP ALL” at this time, or all the air will get released from the Rail Cars and the whole system has to be recharged again.
13. Release the Hand Brakes on the Rail Cars

Now the Rail Cars are ready to be moved, do the following. . .

- a. Check that the Steering Lock Engaged
 - b. Verify that the Drive Hub Tire Squeeze is adequate and the Friction Drive Hi-Rail warning alarms are not sounding
 - c. Verify that the track is clear, and open for rail car moving
 - d. Blow the Train Air Horn to alert others that Rail Car Moving is beginning
 - e. Put the transmission in forward 2nd gear or reverse
 - f. Throttle engine down
 - g. Verify the Rail Switches are set
 - h. Verify the Rail Cars are properly Coupled
 - i. Make sure all brakes are released
 - j. Make sure moisture is drained from the air reservoirs
 - k. Observe for any leakage of air, water, or air
14. If equipped, slowly apply weight transfer
 15. With the transmission set in the direction to move the rail cars, increase throttle until wheel spin is imminent. If the rail cars fail to move, the transmission should be reversed and throttle applied. If the rail cars move, reverse the transmission to the direction originally intended, and use a throttle setting below the point of wheel slip.
Sometimes these maneuvers must be repeated before all rail car brake mechanisms will free themselves. Should the Rail Car Mover fail to move the rail cars after performing these procedures, there are too many rail cars for the Rail Car Mover to move. This could be from track conditions, weather, or most likely, one rail car brake mechanism was overlooked.

Rail Car Moving Procedure (Continued)

16. Once the Rail Cars begin to move, reduce the throttle and weight transfer (if equipped)

A practice that is very effective is to put a rail car on each end of the Rail Car Mover, and apply weight transfer between both rail cars. If weight transfer is used on one end only, use caution as to not over weight transfer, which will reduce tractive effort significantly.

Another maneuver that is very effective in reducing wheel slip is “Sanding” the rail head. Typically the coefficient of adhesion ranges from 13% to 33%, with the worst being 13% for wet rail. 18% for dry rail-moderately contaminated surface/poor rail joints, 24% for dry rail-slightly contaminated surface/good rail joints, and 33% for dry rail “Sanded”.

To get an idea of how many cars a Rail Car Mover can move, use the following formula:

$$(\text{Weight of Car Mover}) \times (\text{Coefficient of Adhesion}) = (\text{Drawbar Pull})$$

For roller bearing Rail Cars it takes 6 lbs/ton of Drawbar Pull to start moving Rail Cars. Add 20 lbs/ton for each percent of grade and add 0.8 lbs/ton of curve degree times (x) the weight of Rail Cars in the Curve. Take this total and divide it into your Drawbar Pull to get the tonnage that the Rail Car Mover can move.

CAUTION: EXCESSIVE WHEEL SLIP WITH A LOAD THAT WILL NOT MOVE WILL CAUSE THE FRICTION DRIVE HI-RAIL WHEELS TO BEGIN TO BOUNCE ON THE RAIL. THIS BOUNCING IS CAUSED BY THE RAIL CAR MOVER’S TIRES GRABBING AND TURNING THE DRIVE HUBS INTERMITTENTLY. WHEN THIS GRABBING AND TURNING OCCURS, THE TIRES ARE NOT TRANSMITTING POWER. IT’S ONLY CAUSING THE HI-RAIL TO BOUNCE UP AND DOWN ON THE RAIL. THIS BOUNCING ON THE RAIL CAN CAUSE DAMAGE TO BOTH THE HI-RAIL AND THE RAIL CAR MOVER FRAME.

Rail Car Moving Procedure (Continued)

17. Continue to slowly reduce the throttle to allow the “Slack” or “Play” between the rail cars to be used up. “Slack” is a benefit in starting a train because it can allow the rail cars to be started individually. Keep the Rail Car Mover speed slow and constant until the rear of the train is in motion. It may be necessary to apply some brakes on the Rail Car Mover to aid in controlling the speed of the Rail Car Mover.

For Example: “Slack or Play” between rail cars is present to a greater or lesser degree on all rail cars. Free slack or the mechanical free motion between two adjoining couplers can be as much as (1) one inch. Conventional draft gears, to which couplers are attached, act to absorb shock and impact. However, they have from 2-3 inches of movement built in. There is a sizeable movement possible within a train between the front and rear ends. Therefore, if the Rail Car Mover is allowed to accelerate too rapidly, the standing rail cars in the train will be “jerked” from 0-4 MPH. This “jerk” action can cause damage to the Rail Car Mover Frame or Coupler mechanism.

18. Once the load is moving the speed can be increased to a safe operating level.
19. Continue pulling the rail cars using caution, and safety, until the load needs stopped.
20. To stop the moving load, slowly reduce the air pressure in the rail cars, by rotating the Train Air Brake Controls from the “RUN” position, to 1st Brake, 2nd Brake, 3rd Brake, and finally 4th Brake. Do not rotate the Train Air Brake Controls to “EMERGENCY DUMP ALL”
21. For an Emergency Stop, Press the “EMERGENCY DUMP ALL” button or rotate the Train Air Brake Control to “DUMP ALL”
22. If train air brakes are used on all the rail cars, it is not necessary to bleed the cars or to man the hand brake while moving. The train air brakes will automatically set as soon as the cars are uncoupled. Cars may usually be left for several hours without blocking. In addition to the operators other responsibilities, the yard man should connect all the air lines, properly set all car valves, and check for air leaks.

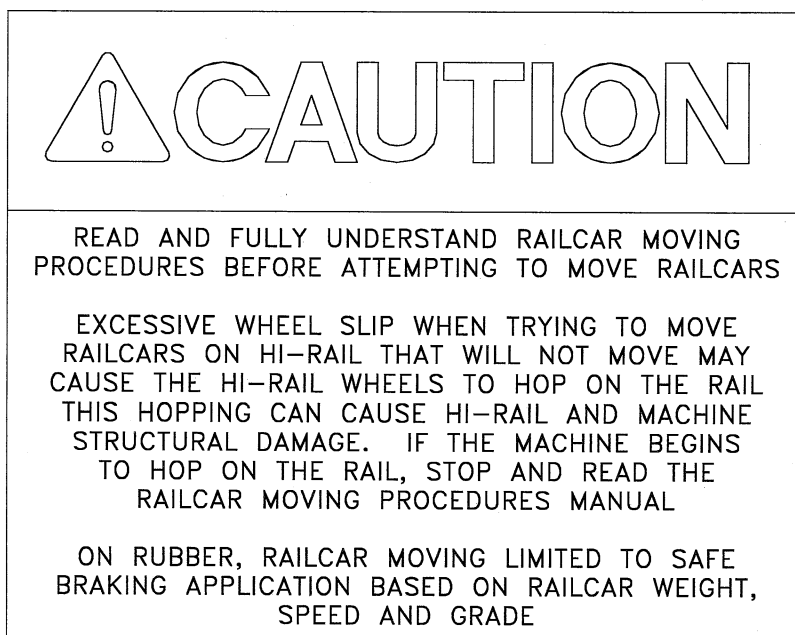
Rail Car Moving Procedure (Continued)

CAUTION SHOULD BE USED FOR CAR MOVERS THAT ARE NOT EQUIPPED WITH A TRAIN AIR BRAKE SYSTEM, BECAUSE THE CAR MOVER HAS ENOUGH POWER TO GET THE LOAD MOVING, BUT WITHOUT TRAIN AIR BRAKES, THE RAIL CARS CAN EASILY TAKE CONTROL OF THE RAIL CAR MOVER. WHEN MOVING RAIL CARS ON A GRADE, GRAVITY CAN CAUSE THE CARS TO ROLL UNCONTROLLABLY.

NEVER MOVE MORE THAN ONE RAIL CAR AT A TIME WHEN MOVING RAIL CARS WITHOUT TRAIN AIR BRAKES. IT IS A GOOD PRACTICE TO ALWAYS HAVE A PERSON ON THE RAIL CAR BEING MOVED THAT CAN ENGAGE THE HAND BRAKE OF THE RAIL CAR. IF MORE THAN ONE RAIL CAR IS MOVED, THE SINGLE HAND BRAKE ON THE ONE RAIL CAR WILL NOT BE ABLE TO STOP THE OTHER RAIL CARS CONNECTED TO IT, AND THE RAIL CAR MOVER WILL NOT HAVE ENOUGH BRAKING POWER TO STOP THE TRAIN.

WHEN MOVING RAIL CARS, ALWAYS MAINTAIN A SAFE OPERATING SPEED THAT WILL INSURE THE OPERATOR CAN BE IN CONTROL OF THE LOAD BEING MOVED AT ALL TIMES. WHEN THE RAIL CAR MOVER IS ON MAIN LINE STRAIGHT WELDED RAIL AND USING TRAIN AIR BRAKES THE LOAD CAN BE MOVED AT FULL RAIL CAR SPEED. ON CURVES AND BOLTED RAIL THE SPEED SHOULD BE REDUCED TO A MINIMUM ROLLING SPEED. IF NO TRAIN AIR BRAKES ARE USED, THE RAIL CAR MOVER SHOULD ALWAYS BE USED AT MINIMUM ROLLING SPEED.

THE FOLLOWING LABEL SHOULD BE IN THE RAIL CAR MOVER CAB



Mitchell Equipment Corporation – Rail Car Moving Procedures

Rail Car Moving Procedure (Supplemental Information)

Certain ascending grade starting situations require special car in gathering slack. Under these conditions, a ground man should be used and kept in good communication.

Where the greater portion of the train is on an ascending grade and it is necessary to take slack to start the train, the operation must be handled carefully to avoid harsh slack action or roll-back of the train. During a slacking operation, the rail car mover must be moved very slowly in both the backward and forward directions.

There is a proven method for bunching and holding train slack on grades; first when communication is established, train personnel may be advised to set a sufficient number of hand brakes on the rear portion of the train. The rail car mover operator will then make a twelve pound brake pipe reduction. Reverse the rail car mover and move the throttle to position one and back to idle. Place the brake valve in portion of the train to slowly roll back, bunching the slack. Then place the reverse lever in forward position, open the throttle to a position required to slowly start the train. The rail car mover operator will have to signal the train personnel to release the hand brake.

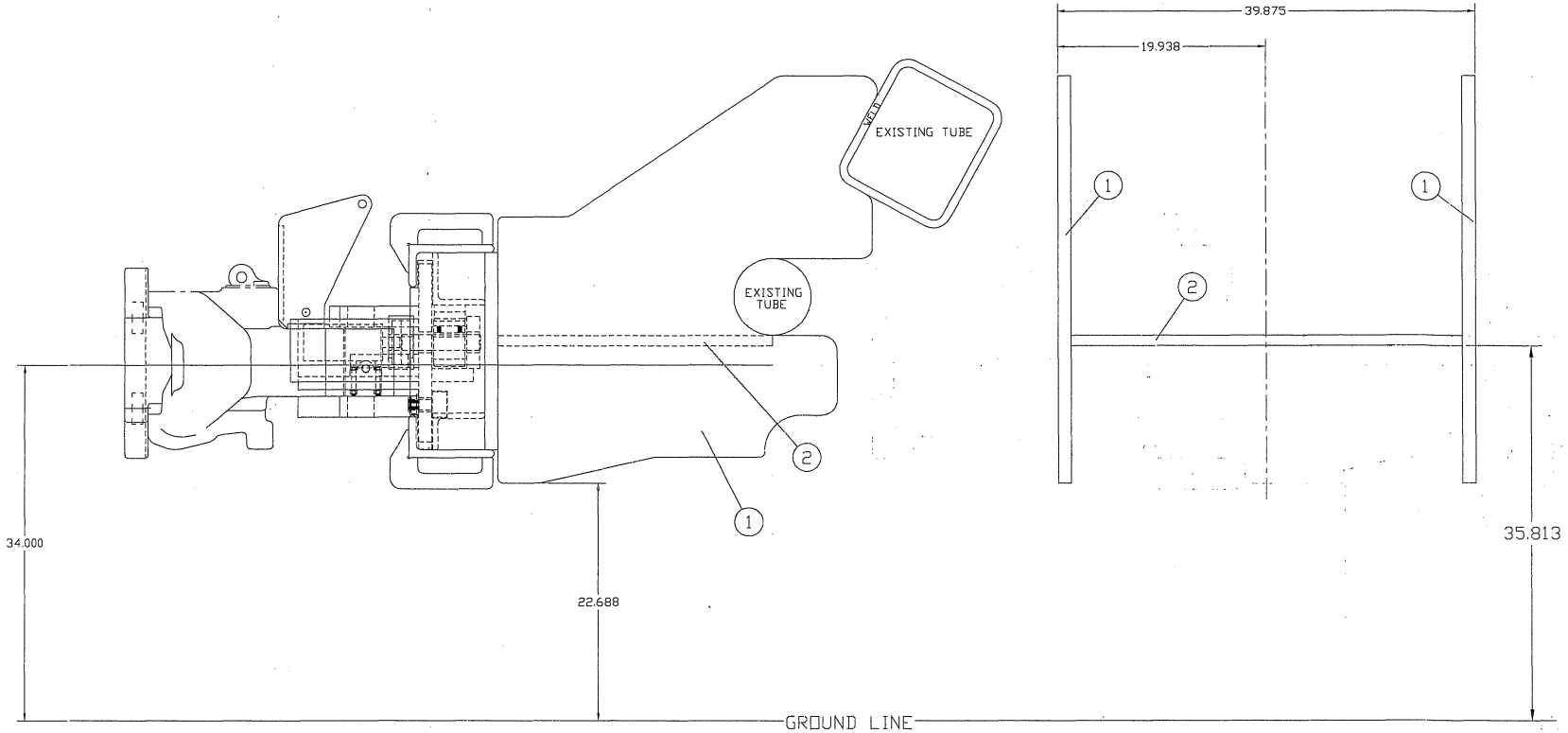
Care is required in handling throttle and brakes in order to avoid harsh slack action and damage and lading when making back-up moves. Allow sufficient time for train brakes to release before applying power. Apply power gradually and do not use any more power than actually required to smoothly start the train. Do not attempt the back-up move by taking slack and then applying heavy or excessive power. Give attention to indications that brakes are being applied from the rear. Observe the Air Pressure on the Rail Car Brakes Gage.

Typical of a car mover operation after an emergency application, a full minute and a half is required before the brakes can be relieved by returning the brake valve to the release position. After one and a half minutes release action will start at the first car and proceed through the train brake system. The process requires some 10 seconds per rail car depending on the condition of the rail car's air system.

Emergency brake action can also be relieved by bleeding each rail car. (Bleed valve handles are located on both sides of the rail car, 90 degrees to the brake cylinder) Once a rail car has been bled, braking control can only be achieved by recharging in the release position. Although recharging time is determined by the condition of the rail car or rail cars air systems, an average of 10 to 15 seconds for rail car is typical, provided the rail car mover air tank is fully charged.

When the train air system is being used with only one or two cars to brake a train, the cars not using train air should be bled prior to moving. The rear shut off valve of the last car utilizing air should be in the shut off position at all times. Shut off valves between cars using air and the car coupler to the Rail Car Mover should be in the open position with all air hoses connected.

W P S . . .



MACHINING TOLERANCES UNLESS OTHERWISE SPECIFIED ON DWG.	WELDING TOLERANCES UNLESS OTHERWISE SPECIFIED ON DWG.
2 PLACES = ±0.031	2 PLACES = ±0.094
3 PLACES = ±0.015	3 PLACES = ±0.063
4 PLACES = ±0.008	4 PLACES = ±0.031

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2	PLATE	1	D-38031
1	MOUNT PLATE	2	D-38030
NO.	DESCRIPTION	QTY	PART NO.

ITEM	DATE	REVISIONS		APPROV
		CHANGE		

MITCHELL EQUIPMENT CORPORATION

SCALE: 1/8
DATE: 4-9-08

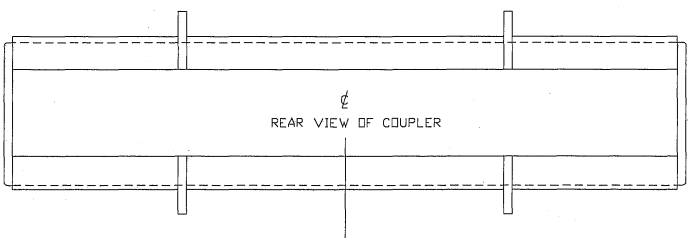
CAT 824H

COUPLER MOUNT LOCATION

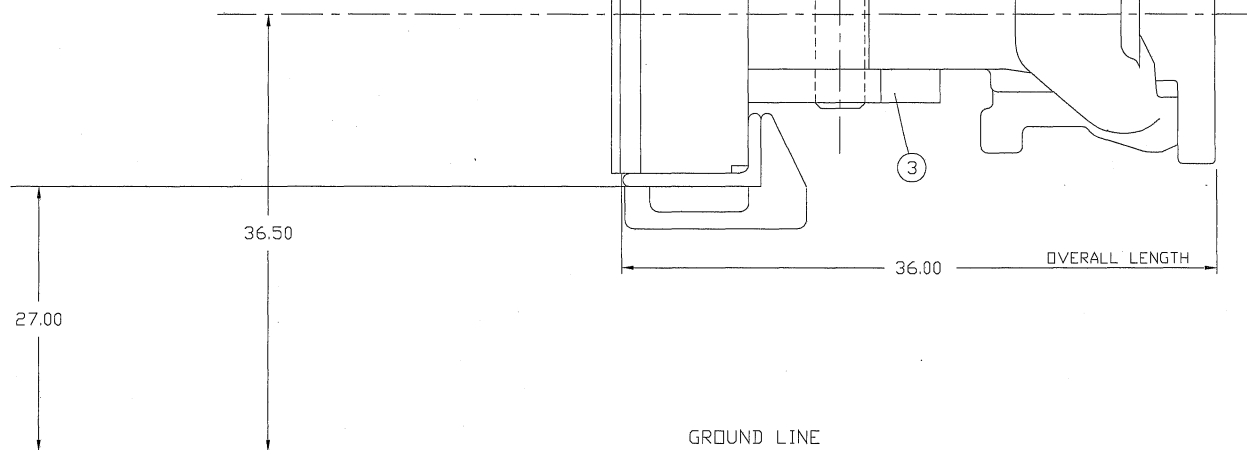
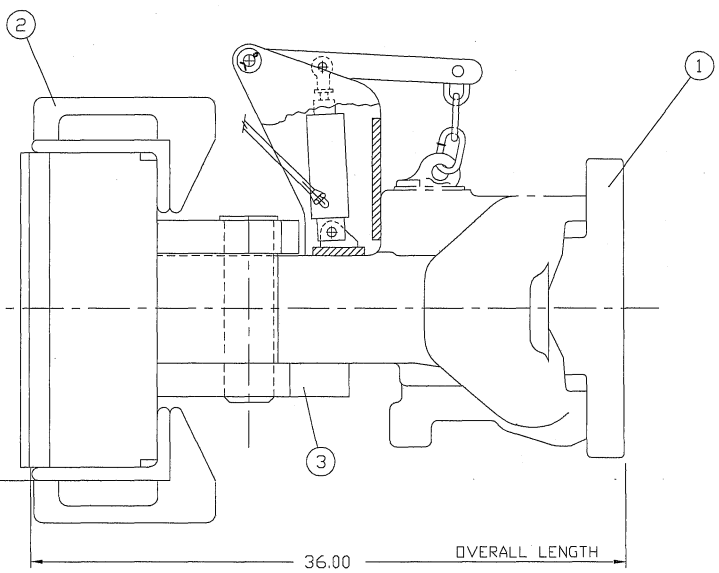
WEDLMNT

DRAWN BY: NCB
DRAWING NUMBER: D-38032

AM S



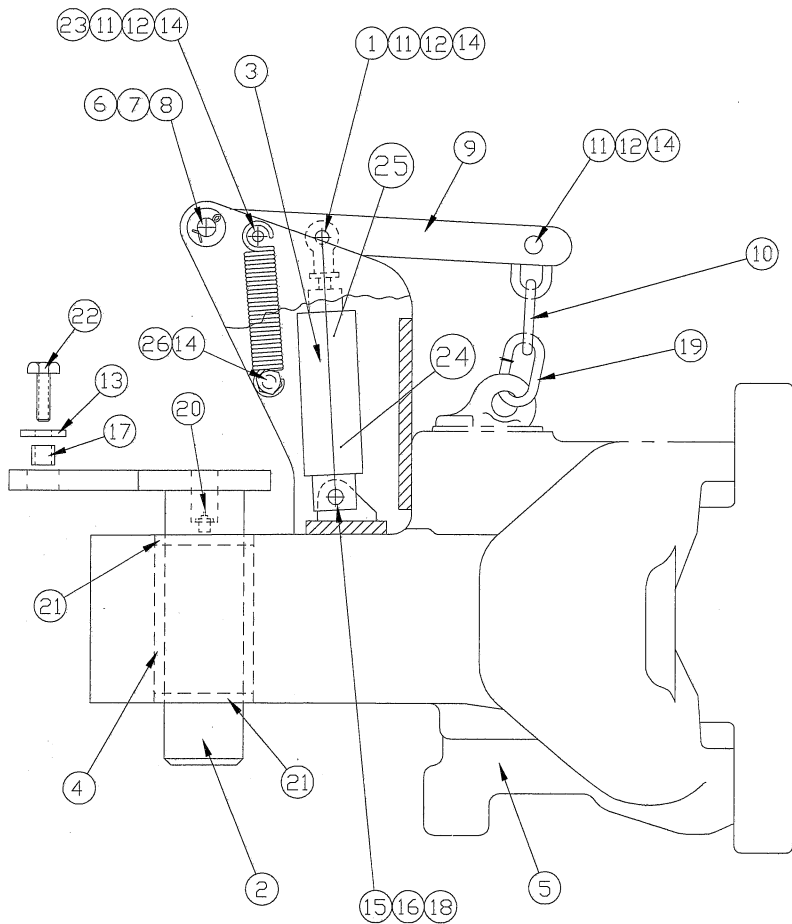
REAR VIEW OF COUPLER



GROUND LINE

1. NOTCH RADIATOR SHROUD IF REQUIRED.
2. VERTICLE ALIGNMENT SHOULD BE 36.50 INCHES FROM THE CENTER LINE OF COUPLER TO GROUND LEVEL.
3. GREASE BUMPER GUIDES AND LIFTING MECHANISMS.

5	INSPECTION REPORT	1	A-33680
4	ANGLE COCK MNT	1	D-38169
3	POCKET ASSEMBLY	1	D-20734
2	COUPLER BUMPER WELDMENT	1	D-16802
1	COUPLER ASSEMBLY	1	C-14787
NO.	DESCRIPTION	QTY	PART NO.
REVISED DATE			
MITCHELL EQUIPMENT CORPORATION			
SCALE: 1/4		DRAWN BY: NCB	
DATE: 6-24-08			
POWER COUPLER INSTALLATION			
DRAWING NUMBER			D-38256
V/ HYDRAULIC PIN LIFT			



26	1/2-20 x 6.5" LG BOLT	1	2H3747
25	1/4" PIPE BRASS BREATHER VENT	1	A-22282
24	FITTING	1	6-CTX-S
23	RETURN SPRING	1	A-13686
22	5/8-11 HEX CAP BOLT X 2.00 LG	1	7X0346
21	SEAL	2	7K9209
20	GREASE FITTING	1	3B8491
19	COLD SHUT	1	A-6331
18	3/8-16 HEX LOCK NUT	1	2K4973
17	SPACER	1	9K9731
16	3/8" FLAT WASHER	2	8T4896
15	3/8-16 HEX CAP SCREW x 2.75LG	1	8T9101
14	1/2-20 HEX LOCK NUT	4	2K0564
13	WASHER	1	5P6652
12	1/2" FLAT WASHER	6	8T4223
11	1/2-20 HEX CAP SCREW x 2.75LG	3	0S1599
10	3/8" PROOF COIL CHAIN (5 LINKS)	1	A-6329
9	LIFT ARM WELDMENT	1	C-1879
8	COTTER PIN	2	A-6328
7	3/4" FLAT WASHER	2	8T4994
6	COUPLER PIN	1	A-1234
5	KNUCKLE WELDMENT	1	B-16126
4	BUSHING	1	9T8676
3	HYDRAULIC CYLINDER	1	A-1858
2	PIN	1	3V2337
1	BALL JOINT ROD END	1	A-8864
NO.	DESCRIPTION	QTY.	PART NO.

△ A

△ D

△ C

TOLERANCES	
UNLESS OTHERWISE SPECIFIED USE THE FOLLOWING (DIMENSIONS IN INCHES)	
2 PLACES	= +1/16
3 PLACES	= +1/32
4 PLACES	= +1/64

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REMOVED ITEM <27> DUPLICATE OF <14>
WAS WELDED NOW ASSY (ADDED <27>)

WAS 6331

△ D
△ C
△ B
△ A

MITCHELL EQUIPMENT CORPORATION

DRAWN BY
J.W.

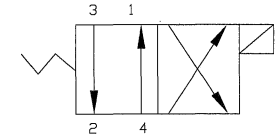
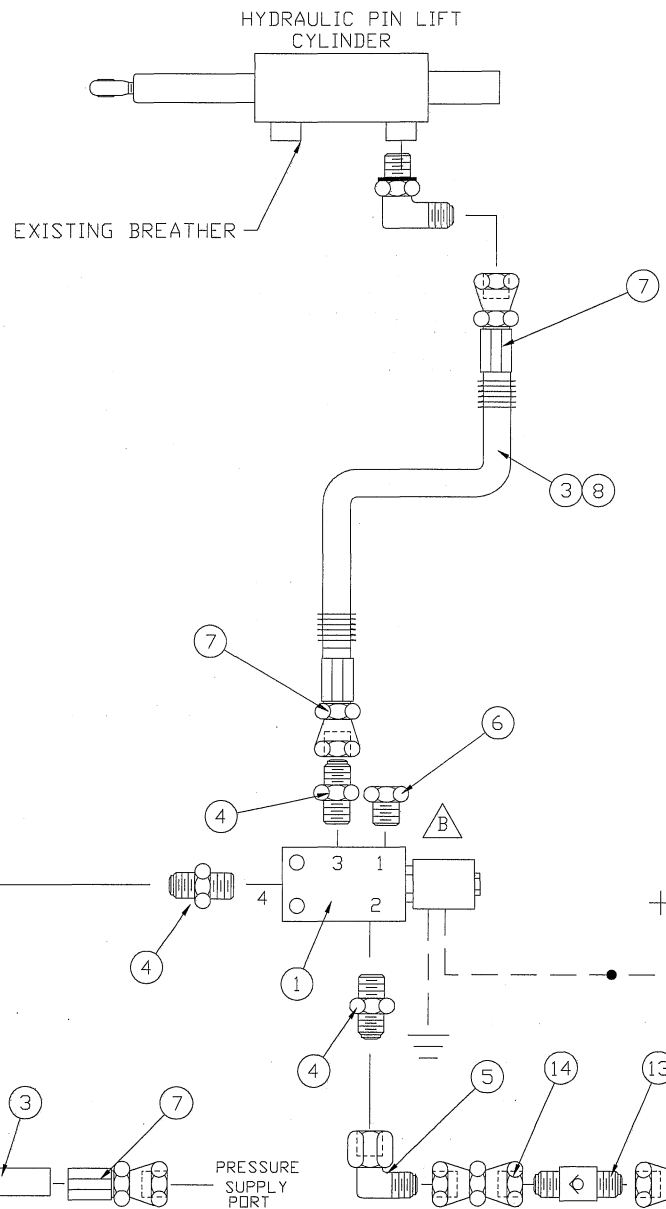
COUPLER ASSEMBLY

DRAWING NUMBER
C-14787

NO	DESCRIPTION	QTY	PART#
1	24V VALVE	1	A-10921
2	TOGGLE SWITCH	1	A-19192
3	1/4" HOSE (422-4)	30FT	421-4
4	MALE CONNECTOR	3	6-FTX-S
5	SWIVEL NUT ELBOW	2	6C6X-S
6	1/4 PIPE PLUG	1	1/4 HP-S
7	RE-USEABLE FITTING	6	20642-6-4
8	SPRING GUARD	20FT	SG060
9	10 AMP FUSE	1	A-9765
10	IN-LINE FUSE HOLDER	1	A-17872
11	PIN LIFT LABEL	1	A-34032
12	SWITCH COVER	1	A-33974
13	CHECK VALVE	1	A-24262
14	FITTING	1	6-HX6-S
15	12V DC COIL FOR VALVE	SEE NOTE	A-16986-COIL

- △ A
- △ A
- △ B
- △ C
- △ D

MOST UNITS REQUIRE 24V DC COIL, IN THE RARE CASES WHERE A 12V COIL IS REQUIRED (FOR TEREX & GROVE CRANES) ORDER QTY 1 OF ITEM <15> ALSO.



SEE D-50459 FOR 5000 PSI SYSTEM

NOTE:
 INSTALLER'S RESPONSIBILITY
 1. TAP INTO A PRESSURE LINE AND TAP INTO THE TANK LINE.
 2. CHOOSING MOUNTING LOCATION FOR CONTROL VALVE.
 3. PROVIDING ELECTRICAL WIRING.
 4. CHOOSING BEST WAY TO ROUTE AND SECURE HOSES.

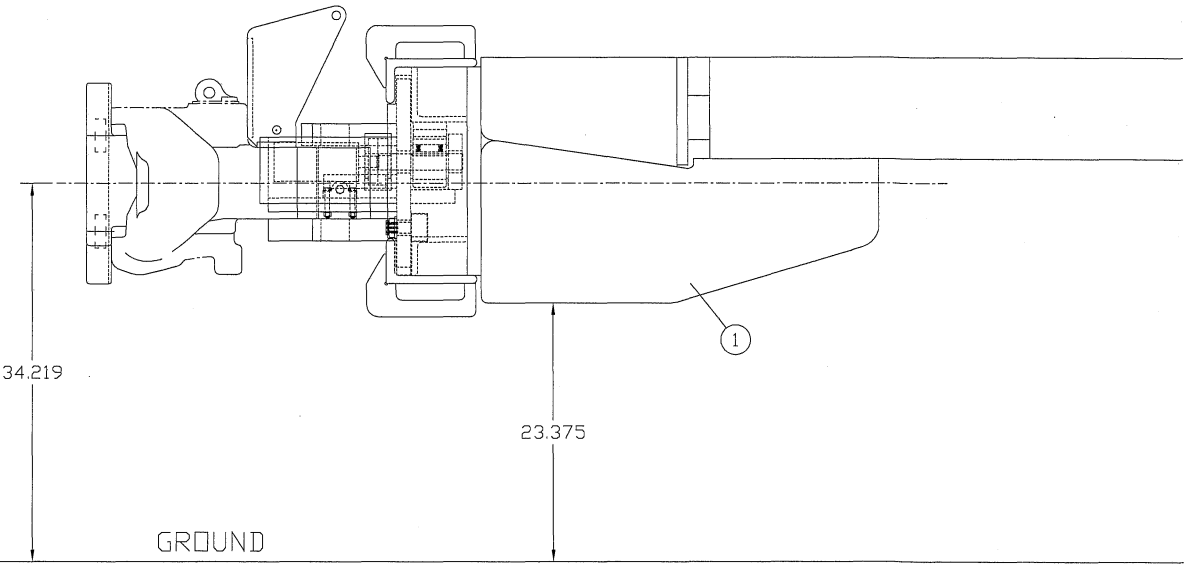
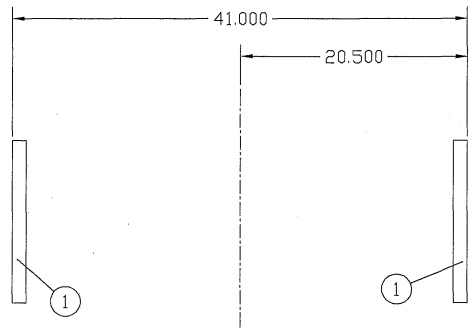
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ADDED ITEM <13>
 CHANGED PORTS CONFIG.
 REMOVED HOSES/CHG'D FITTING

REVISED DATE			DRAWN BY J W
5-11-16 JL			
11-18-09 JL	SCALE: NONE	DATE: 3-1-96	
3-24-06 JL	HYDRAULIC COUPLER PIN LIFT		
8-31-04 JW	24 VOLTS-500 PSI SYSTEM		
5-19-03 JW	DRAWING NUMBER C-15948		
1-28-03 JL			
8-13-96 JW			

W P S . . .



MACHINING TOLERANCES UNLESS OTHERWISE SPECIFIED ON DWG.	WELDING TOLERANCES UNLESS OTHERWISE SPECIFIED ON DWG.
2 PLACES = ±0.031	2 PLACES = ±0.094
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4 PLACES = ±0.008	4 PLACES = ±0.031

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1	1 MOUNT PLATE	2	D-38034
NO.	DESCRIPTION	QTY	PART NO.

ITEM	DATE	REVISIONS		APPRV
		CHANGE		

MITCHELL EQUIPMENT CORPORATION

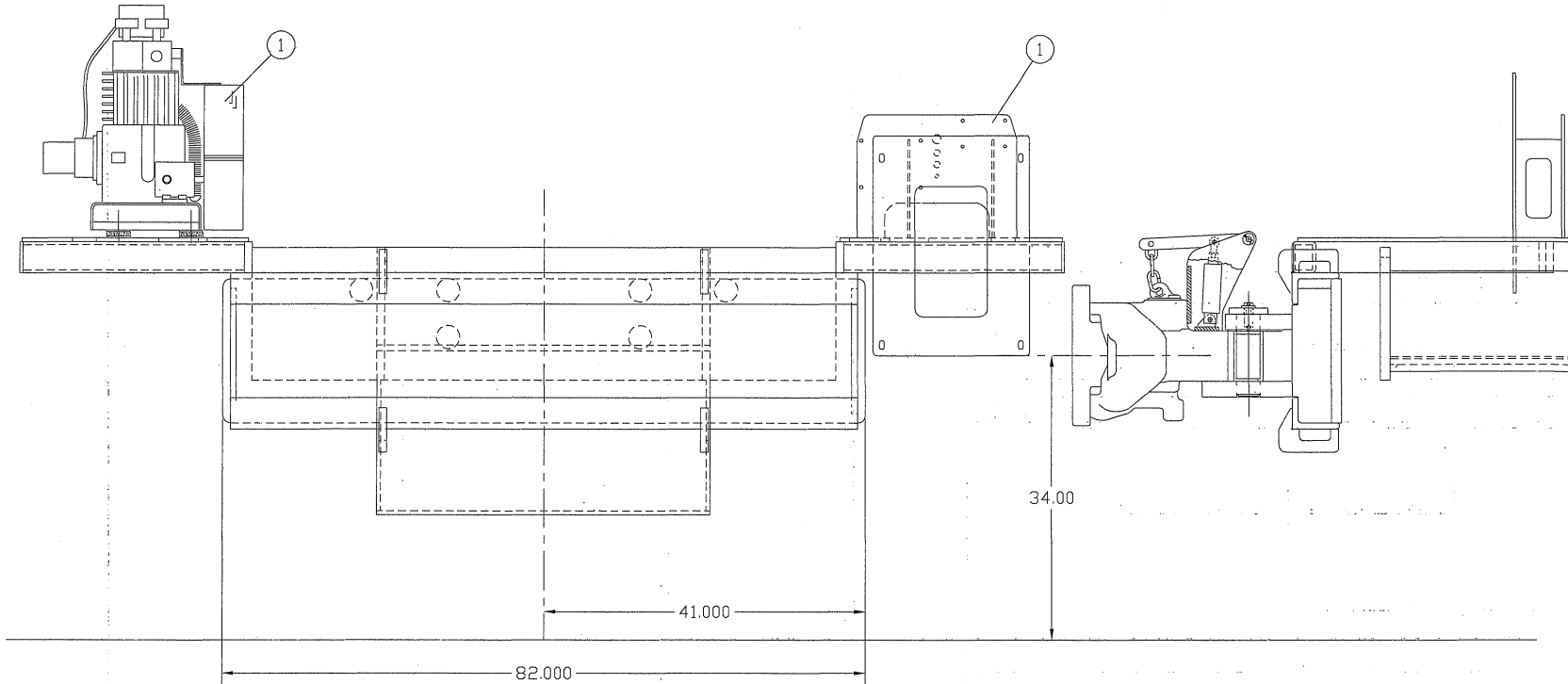
SCALE: 1/6
DATE: 4-9-08

CAT 824H

REAR COUPLER MOUNT LOCATION

WELDMENT

DRAWN BY: NCB
DRAWING NUMBER: D-38034



11	TABS SCHEMATIC	1	C-32842
10	COMPRESSOR SCHEMATIC	1	A-31540
9	AIR COMPRESSOR LINES	1	D-37928
8	CONTROL PANEL	1	B-33939
7	COMPRESSOR UNLOADER	1	D-31623
6	AIR DRYER LINES	1	D-33787
5	AIR TANK FITTINGS	1	D-33788
4	DUAL NEEDLE AIR GAGE	1	B-33789
3	ABR LINES	1	D-35681
2	ANGLE COCK LINES	1	D-31644
1	AIR TANK/COMPRESS ASSY	1	D-36416
NO.	DESCRIPTION	QTY	PART NO.

REVISIONS			
ITEM	DATE	CHANGE	APRV

MITCHELL EQUIPMENT CORPORATION

SCALE: 1/8
DATE: 3-17-08

CAT 824H

82" SLIDING COUPLER INSTALLATION

MASTER

DRAWN BY: NCB
DRAWING NUMBER: D-37928

MACHINING TOLERANCES
UNLESS OTHERWISE SPECIFIED ON DWG.

2 PLACES = ±0.031
3 PLACES = ±0.015
4 PLACES = ±0.008

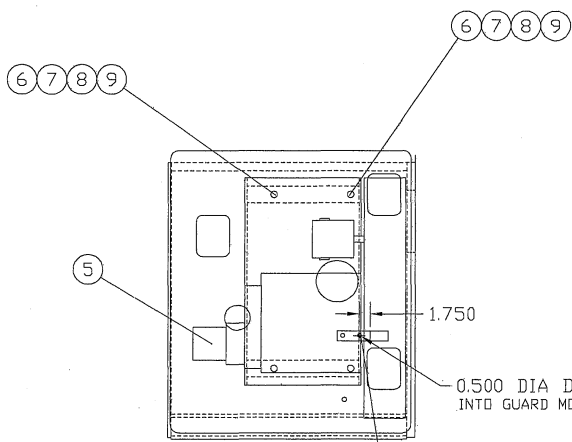
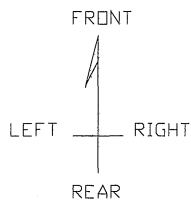
WELDING TOLERANCES
UNLESS OTHERWISE SPECIFIED ON DWG.

2 PLACES = ±0.094
3 PLACES = ±0.063
4 PLACES = ±0.031

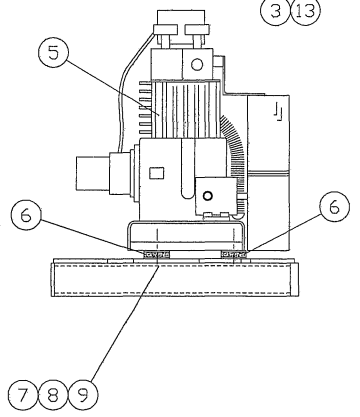
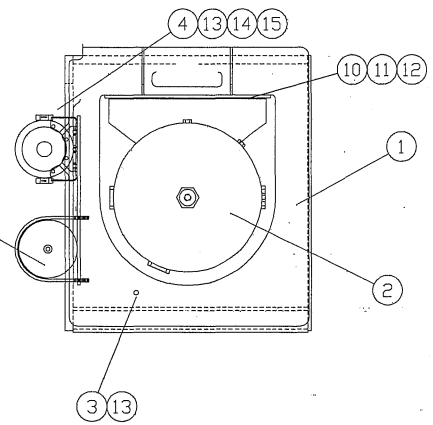
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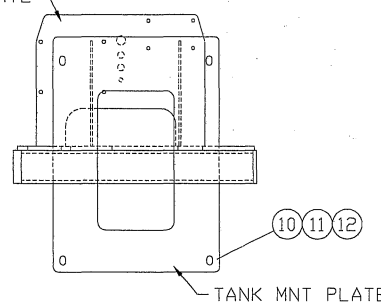
AM



USE KIT HARDWARE TO MOUNT TANK INTO GUARD MOUNT



TURBO 2000 MOUNT PLATE



TANK MNT PLATE
COMPONENTS REMOVED FOR DRAWING CLARITY

NO.	DESCRIPTION	QTY	PART NO.
13	ADDITIONAL MIRROR SUPPORTS	0	A-41251
12	1/2-13x2.0"LG BOLT	4	8T4835
11	1/2 FLATWASHER	8	8T4223
10	1/2-13 LOCK NUT	4	1K6872
9	3/4-10x4.0"LG BOLT	4	8C8842
8	3/4 FLATWASHER	8	8T4994
7	3/4-10 LOCK NUT	4	1K6870
6	COMPRESSOR MNT PADS	4	A-8854
5	24CFM AIR CMP.	1	A-9660
4	24V TURBO 2000 KIT	1	A-26825
3	MIRROR	0	A-20855
2	TANK	1	D-31750
1	AIR CMP/TANK MNT	1	D-36417
	NO. DESCRIPTION	QTY	PART NO.

MACHING TOLERANCES
UNLESS OTHERWISE SPECIFIED ON DWG.
2 PLACES = ±0.031
3 PLACES = ±0.015
4 PLACES = ±0.008

WELDING TOLERANCES
UNLESS OTHERWISE SPECIFIED ON DWG.
2 PLACES = ±0.094
3 PLACES = ±0.063
4 PLACES = ±0.031

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ITEM	DATE	REVISIONS		APPROV
		CHANGE		
B	2-15-17	REMOVED MIRROR-MACHINES HAVE CAMERAS		JL
A	7-12-11	ADDED MORE MIRROR SUPPORT ARMS		JL

MITCHELL EQUIPMENT CORPORATION

SCALE: 1/8" = 1" DATE: 6-9-06

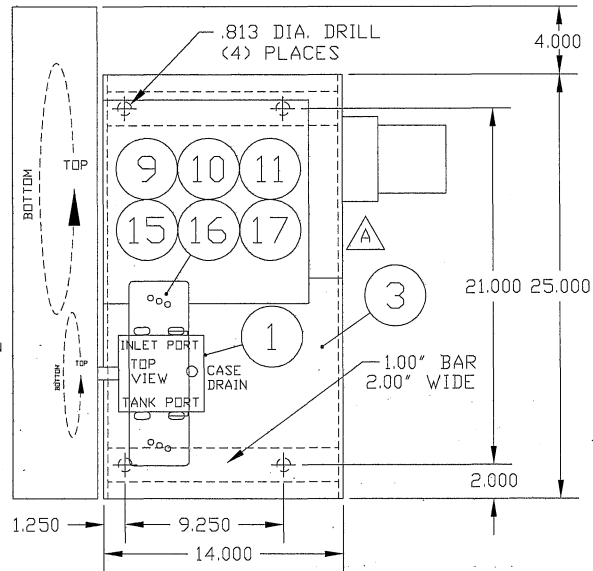
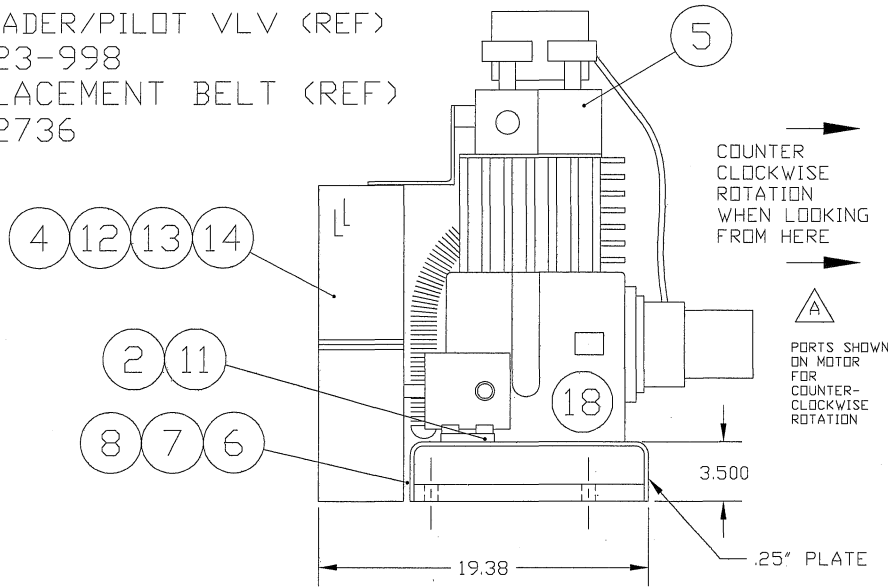
T.A.B.S. KIT
AIR COMPRESSOR/TANK MOUNT ASSEMBLY

DRAWN BY: J.L.
DRAWING NUMBER: D-36416

AM W P S . .

NOTE: ALL DIMENSIONS ARE FOR REFERENCE ONLY.

UNLOADER/PILOT VLV (REF)
111423-998
REPLACEMENT BELT (REF)
A-32736



18	3/8-24x1.75"LG BOLT Δ	4	0L0478	9	NEW MOTOR MNT BRACKET	2	B-41264
17	5/16-18 LOCK NUT	5	314155	8	3/8" FLATWASHER	12	8T4896
16	5/16 FLATWASHER	10	8T4224	7	3/8-24x1.00" LONG BOLT	2	6F7030
15	5/16-18x1.50"LG BOLT	1	8C3121	6	3/8-24 LOCKNUT	6	2L6267
14	DOUBLE PULLY	1	A-37638	5	PURCHASED COMPRESSOR	1	A-23456
13	BELT	2	A-37637	4	AIR COMPRESSOR GUARD	1	D-25881
12	PULLY BUSHING	1	A-37636	3	COMPRESSOR BASE	1	B-14148
11	FILTER MODIFICATION Δ	1	D-31520	2	HYDRAULIC MOTOR BRACKET	1	A-11598
10	5/16-18x2.5"LG BOLT Δ	4	5P2955	1	HYDRAULIC MOTOR	1	A-11597

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old motor mnt-a-37635

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REVISED DATE	REVISED DATE
	2-11-04 JW
4-26-17 Δ	3-17-03JVV
9-27-12 Δ	2-13-03JL
3-1-12 JL Δ	4-24-01 JW
1-27-12JL	6-27-94 JW
12-28-07JL	6-18-93 JW
8-2-07JL Δ	3-8-93 JW

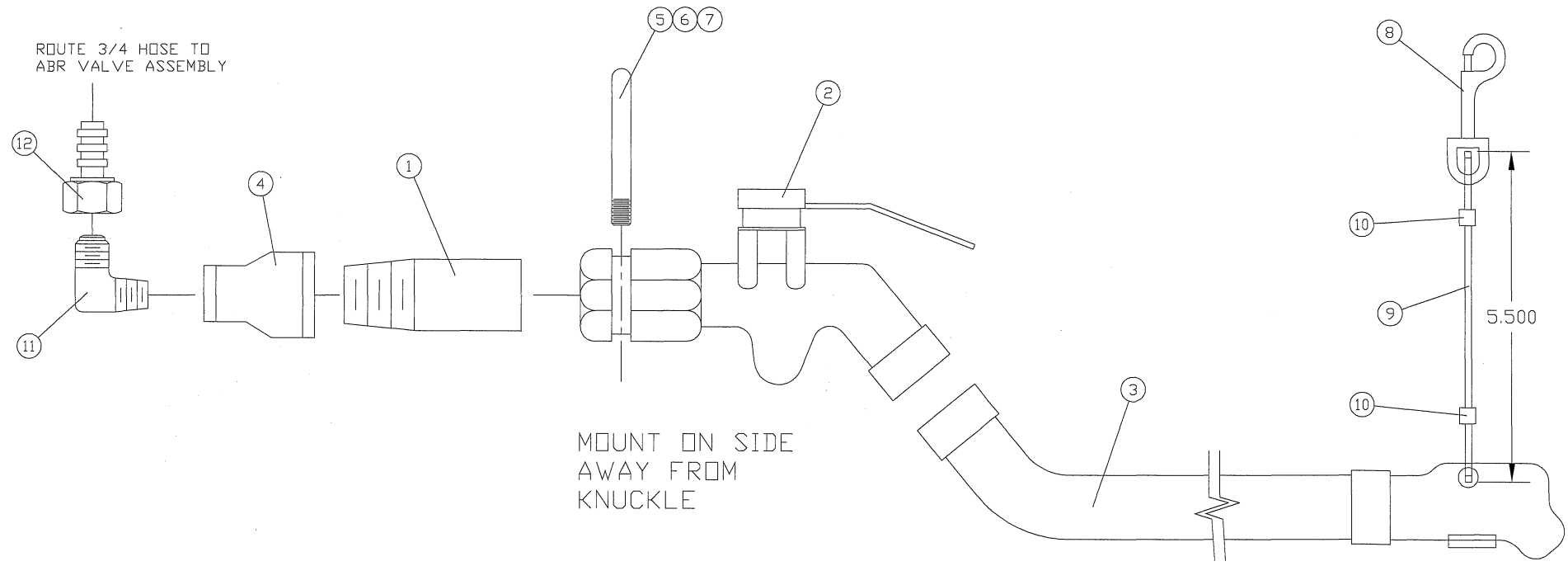
MITCHELL **ME** EQUIPMENT CORPORATION

SCALE: 1/12
DATE: 9-19-90
DRAWN BY
M P

24 CFM COMPRESSOR MODEL 325

DRAWING NUMBER
A-9660

AM S



ROUTE 3/4 HOSE TO
ABR VALVE ASSEMBLY

MOUNT ON SIDE
AWAY FROM
KNUCKLE

5.500

12	AIR FITTING	1	30692-12-12
11	FITTING	1	12-CTX-S
10	NICOPRESS SLEEVE	2	A-10596
9	1/8" GALV CABLE x 8.0' LG	1	25593
8	SNAP HOOK	1	A-14928
7	5/8 FLAT WASHER	2	8T4122
6	5/8-11 LOCK NUT	2	3K2889
5	U-BOLT	1	A-16648
4	BELL REDUCER	1	A-16546
3	TRAIN AIR BRAKE HOSE	1	A-16247
2	ANGLE COCK	1	A-8580
1	1.25" PIPE CONNECTOR	1	A-8661
NO.	DESCRIPTION	QTY	PART NO.

A

MACHINING TOLERANCES UNLESS OTHERWISE SPECIFIED ON DWG.	WELDING TOLERANCES UNLESS OTHERWISE SPECIFIED ON DWG.
2 PLACES = ±0.031	2 PLACES = ±0.094
3 PLACES = ±0.015	3 PLACES = ±0.063
4 PLACES = ±0.008	4 PLACES = ±0.031

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ITEM	DATE	REVISIONS		APPROV
		CHANGE		
A	4-7-04	WRONG P/N WAS J14122		JL

MITCHELL EQUIPMENT CORPORATION

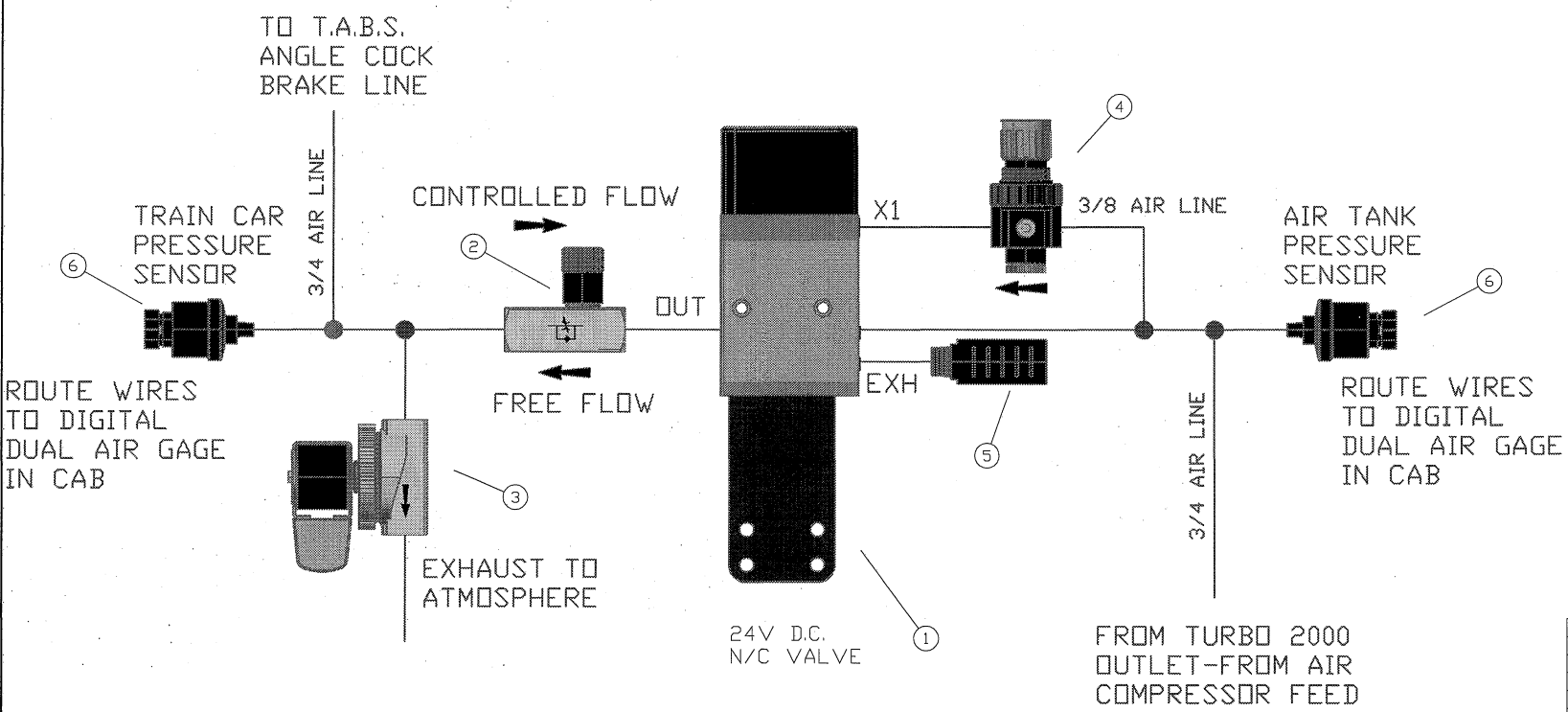
SCALE: NONE
DATE: 5-9-02

CAT 950G

ANGLE COCK AIR LINE ASSY

ASSEMBLY

DRAWN BY J L
D-31644



6	SENSOR-SUPPLIED W/ GAGE	0	A-49764
5	MUFFLER	1	A-8624
4	REGULATOR	1	A-8637
3	SOLENOID VALVE	1	A-19789
2	FLOW CONTROL	1	A-15817
1	ABR/PAR 15 MNT ASSY	1	D-35148
NO.	DESCRIPTION	QTY	PART NO.

<p>MACHINING TOLERANCES UNLESS OTHERWISE SPECIFIED ON DWG.</p> <p>2 PLACES = ±0.031 3 PLACES = ±0.015 4 PLACES = ±0.008</p>	<p>WELDING TOLERANCES UNLESS OTHERWISE SPECIFIED ON DWG.</p> <p>2 PLACES = ±0.094 3 PLACES = ±0.063 4 PLACES = ±0.031</p>	<p>Note: This design and drawing is the property of Mitchell Equipment Corp. and must not be copied, loaned or otherwise used without express permission or license in writing.</p> <p>Copyright © 2018 by Mitchell Equipment Corp. 5275 N. Ann Arbor Rd, Dundee, MI 48131</p>
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REVISIONS			
ITEM	DATE	CHANGE	APPROV

MITCHELL EQUIPMENT CORPORATION

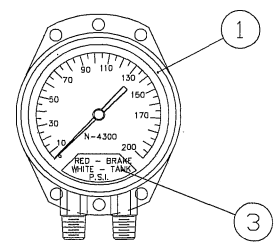
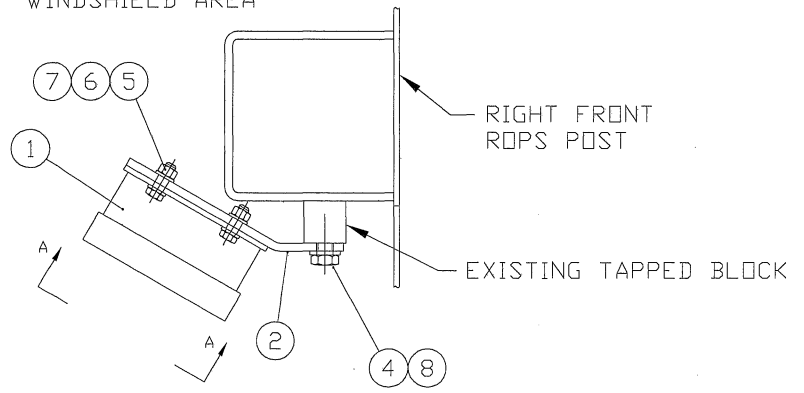
SCALE: NONE DATE: 4-12-05 VARIOUS MACHINES DRAWN BY: J L

ABR VALVE PNEUMATICS

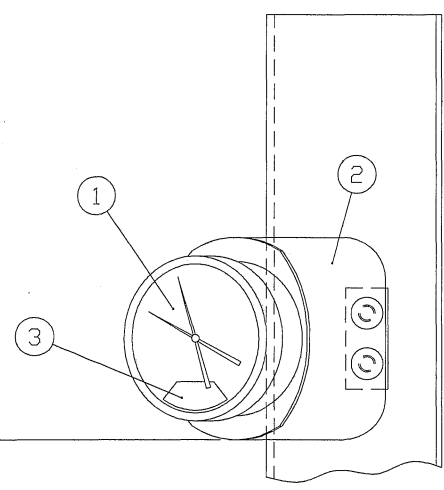
A	1-24-18	NEW DRAWING/OLD DWG LEFT-SMALLER	JL	FREIGHT COUPLER	DRAWING NUMBER: D-35681
---	---------	----------------------------------	----	-----------------	-------------------------

AM S

WINDSHIELD AREA



VIEW: A-A



VIEW FROM INSIDE THE CAB LOOKING FORWARD ON THE RIGHT SIDE

33.00 REF.
FROM FLOOR

8	3/8" FLATWASHER	2	8T4896
7	1/4-28 x 3/4" LG. BOLT	3	0T0284
6	1/4-28 LOCK NUT	3	2L9038
5	1/4 FLAT WASHER	6	8T4205
4	M10x1.50x30mm LONG BOLT	2	6V1820
3	BRAKE AND TANK P.S.I. LABEL	1	A-31680
2	GAGE MOUNT	1	B-33790
1	3 1/2" DUAL NEEDLE AIR GAGE	1	A-31489
NO.	DESCRIPTION	QTY	PART NO.

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MACHINING TOLERANCES UNLESS OTHERWISE SPECIFIED ON DWG.	WELDING TOLERANCES UNLESS OTHERWISE SPECIFIED ON DWG.
2 PLACES = ±0.031	2 PLACES = ±0.094
3 PLACES = ±0.015	3 PLACES = ±0.063
4 PLACES = ±0.008	4 PLACES = ±0.031

REVISIONS			
ITEM	DATE	CHANGE	APRV

MITCHELL EQUIPMENT CORPORATION

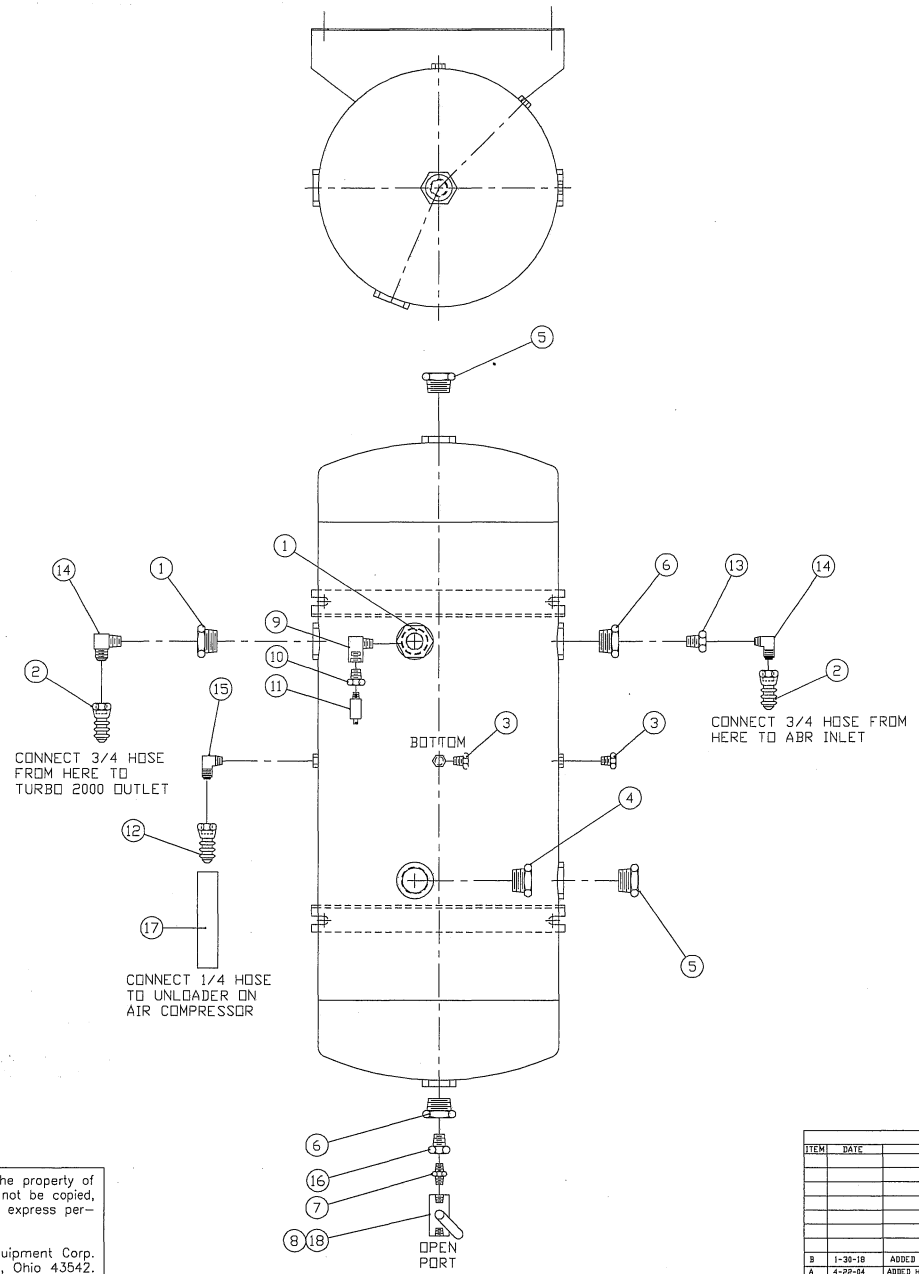
SCALE: 1/3
DATE: 2-10-04

CAT 962G

DRAWN BY
J W

DUAL NEEDLE AIR GAGE ASSEMBLY

DRAWING NUMBER
B-33789



USE EITHER ITEM <8> OR ITEM <18>

NO.	DESCRIPTION	QTY	PART NO.
18	DRAIN VALVE W/ CABLE	*1	A-48048
17	1/4 AIR HOSE (155.0' LG)	0	4L4
16	PARKER PIPE THD. REDUCER	0	1x1/2 PTR-S
15	PARKER MALE ELBOW	0	4-4 CTX-S
14	PARKER MALE ELBOW	0	12 CTX-S
13	PARKER PIPE THD. REDUCER	0	1x3/4 PTR-S
12	AIR COUPLING	0	30682-4-4
11	SAFETY VALVE	1	A-8636
10	PARKER PIPE THD. REDUCER	0	3/4-1/4PTR-S
9	FITTING	0	4-R6X-S
8	SHUT OFF VALVE	*1	A-10161
7	PARKER PIPE NIPPLE	0	1/2FF-S
6	PARKER PIPE REDUCER	0	2x1 PTR-S
5	PARKER 2' PIPE PLUG	0	2 HP-S
4	PARKER 3/4" PIPE PLUG	0	3/4 HHP-S
3	PARKER 1/2" PIPE PLUG	0	1/2 HHP-S
2	AIR COUPLING	0	30682-12-12
1	PARKER PIPE THD. REDUCER	0	1 1/2x3/4PTR-S

ITEM	DATE	REVISIONS		APPROV
		CHANGE		
B	1-30-18	ADDED FITTING BDM. AND REMOVE QTY'S ON BDM		JL
A	4-22-04	ADDED HOSE AND LENGTH ITEM 17		JL

MITCHELL EQUIPMENT CORPORATION

SCALE: 1/5
DATE: 2-9-04

CAT 950G

DRAWN BY: J W

AIR TANK PNEUMATICS

ASSEMBLY

DRAWING NUMBER: D-33788

MACHINING TOLERANCES
UNLESS OTHERWISE SPECIFIED ON DWG.
2 PLACES = ±0.031
3 PLACES = ±0.015
4 PLACES = ±0.008

WELDING TOLERANCES
UNLESS OTHERWISE SPECIFIED ON DWG.
2 PLACES = ±0.094
3 PLACES = ±0.063
4 PLACES = ±0.031

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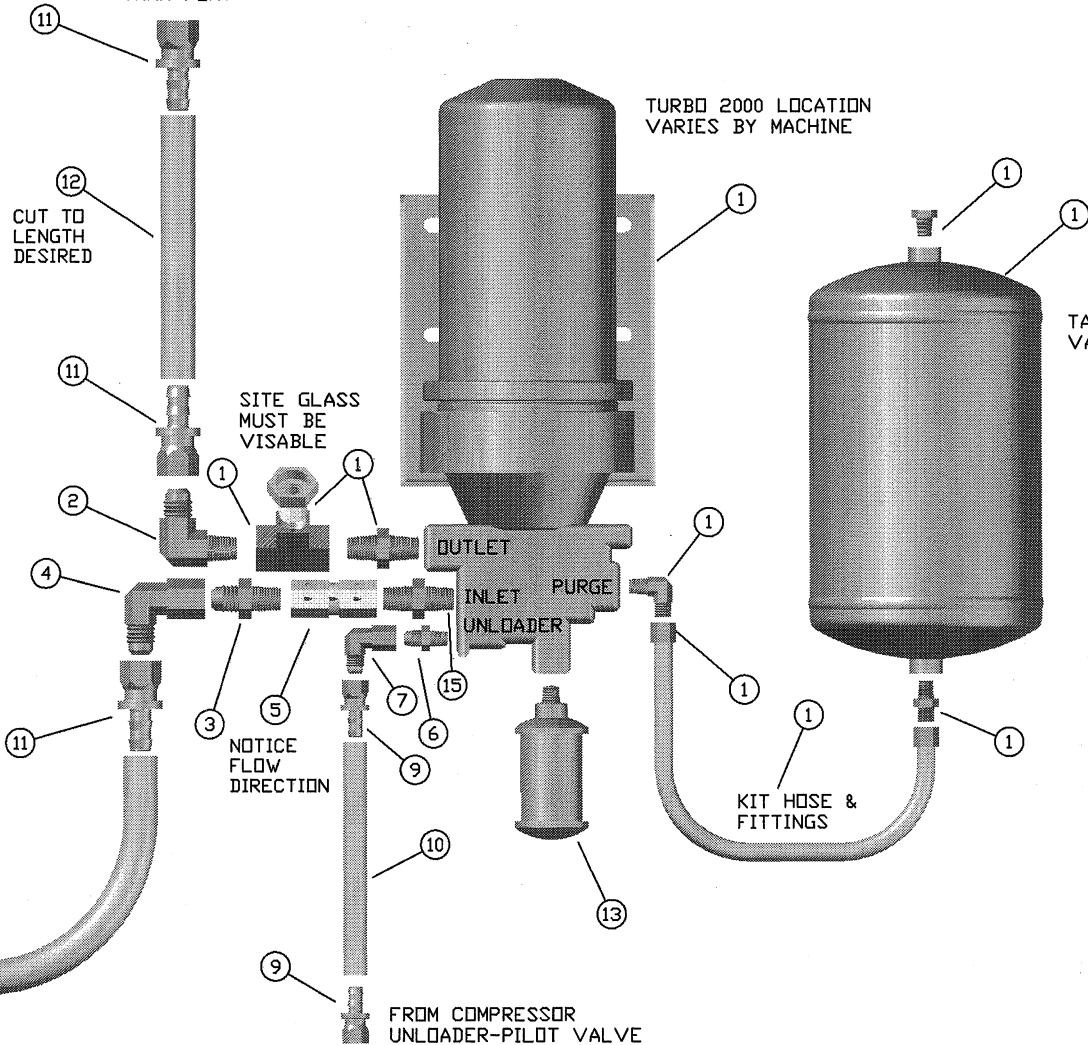
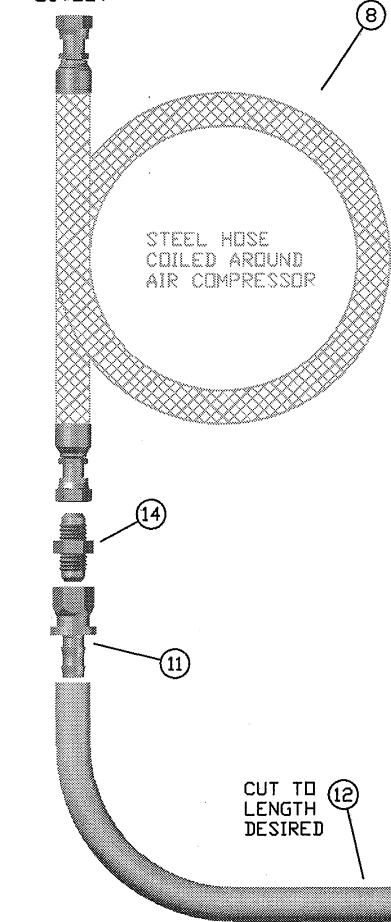
AM S

FROM AIR COMPRESSOR OUTLET

CONNECT TO ANY OPEN AIR TANK PORT

TURBO 2000 LOCATION VARIES BY MACHINE

TANK LOCATION VARIES BY MACHINE



CUT TO LENGTH DESIRED

NOTICE FLOW DIRECTION

FROM COMPRESSOR UNLOADER-PILOT VALVE

NO.	DESCRIPTION	QTY	PART NO.
15	FITTING	1	1/2-FF-S
14	FITTING	1	16-12HTX-S
13	MUFFLER	1	A-19838
12	3/4" HOSE x 120" LG	1	12L4
11	PUSH-LOK FITTING	4	30682-12-12S
10	1/4" HOSE x 48" LG	1	4L4
9	PUSH-LOK FITTING	2	30682-4-4S
8	STEEL HOSE	1	A-843B
7	SWIVEL 90	1	4-C6X-S
6	FITTING	1	4-4FTX-S
5	CHECK VALVE	1	A-41383
4	SWIVEL 90	1	12-C6X-S
3	EXPANDER	1	12-8FTX-S
2	ELBOW	1	12-BCTX-S
1	AIR DRYER KIT	0	A-26825
	NO. DESCRIPTION	QTY	PART NO.

MACHINING TOLERANCES
UNLESS OTHERWISE SPECIFIED ON DWG.
2 PLACES = ±0.031
3 PLACES = ±0.015
4 PLACES = ±0.008

WELDING TOLERANCES
UNLESS OTHERWISE SPECIFIED ON DWG.
2 PLACES = ±0.094
3 PLACES = ±0.063
4 PLACES = ±0.031

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DATE	BY	REVISION	CHKD	APP'D

MITCHELL EQUIPMENT CORPORATION

WORLD 1/2 DRAWN BY J V
DATE: 8-9-04 CAT 962G

AIR DRYER PNEUMATICS

DRAWING NUMBER D-33787

REMOVE UNLOADER ASSEMBLY SHIPPED WITH COMPRESSOR AND INSTALL NEW UNLOADER ASSY USING EXITING FITTINGS AND ITEM <5 & 6>

UNLOADER ASSEMBLY ON AIR COMPRESSOR

4
INSTALL INTO OUTLET OF AIR COMPRESSOR

REMOVE EXISTING ELBOW FROM HEX FITTING INSERT TEE AND RE-INSERT EXISTING ELBOW

CONNECT TO FITTING ON AIR TANK

CONNECT TO TURBO 2000 UNLOADER

REMOVE EXISTING PLUG INSERT ELBOW INTO EXISTING TEE

USE FITTINGS AS NEEDED

8	FITTING	2	4-FTX-S
7	FITTING	1	1/8MMS-S
6	FITTING	1	3/8-1/4FF-S
5	FITTING	1	3/8-FF-S
4	FITTING	1	16-12 FTX-S
3	MALE ELBOW	2	4-4CTX-S
2	AIR HOSE FITTING	1	30682-4-4
1	MALE RUN TEE	1	1/4-MMS-S
NO.	DESCRIPTION	QTY	PART NO.

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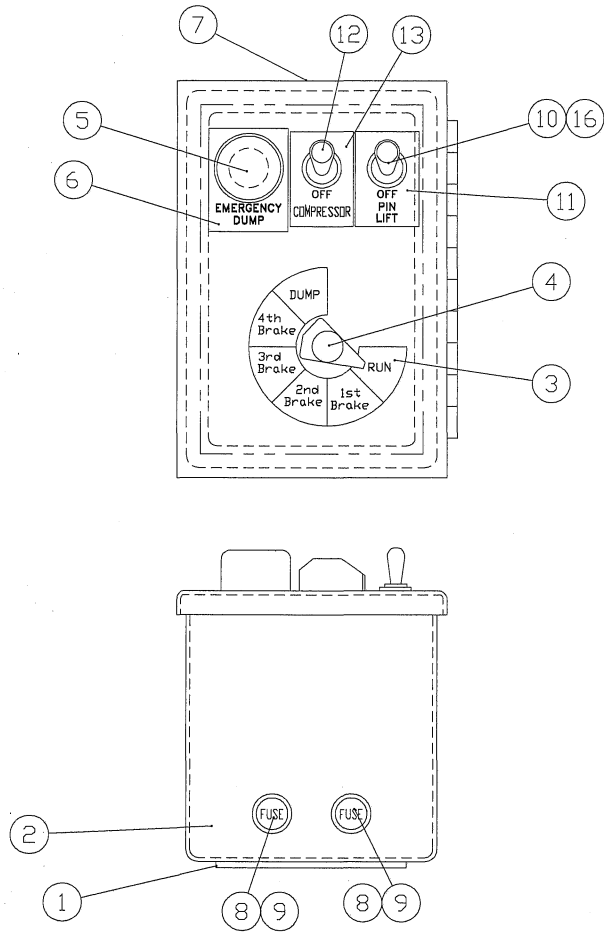
REVISIONS			
ITEM	DATE	CHANGE	APRV
D	5-8-15	ADDED FITTINGS	JL
C	11-6-12	ADDED FITTINGS	JL
B	7-31-03	CHANGE QTY. ITEM 3	JVW
A	3-17-03	CHANGE ITEM No.1 & No.3	JVW

MITCHELL EQUIPMENT CORPORATION

SCALE: NONE DATE: 1-24-03 CAT 988F DRAWN BY J L

MACHINING TOLERANCES UNLESS OTHERWISE SPECIFIED ON DWG.		WELDING TOLERANCES UNLESS OTHERWISE SPECIFIED ON DWG.	
2 PLACES = ±0.031	2 PLACES = ±0.094	2 PLACES = ±0.031	2 PLACES = ±0.094
3 PLACES = ±0.015	3 PLACES = ±0.063	3 PLACES = ±0.015	3 PLACES = ±0.063
4 PLACES = ±0.008	4 PLACES = ±0.031	4 PLACES = ±0.008	4 PLACES = ±0.031

UNLOADER FITTINGS ASSEMBLY DRAWING NUMBER D-31623



NO.	DESCRIPTION	QTY	PART NO.
16	SWITCH COVER	1	A-33974
15	RELAY AND CIRCUIT BREAKER	1	C-31691
14	ELECTRICAL SCHEMATIC	REF	C-34074
13	SWITCH LABEL	1	A-31514
12	SWITCH	1	A-11193
11	SWITCH LABEL	1	A-34032
10	SWITCH	1	A-19192
9	FUSE HOLDER	2	A-8819
8	FUSE	2	A-9765
7	STRAIN RELIEF	1	20510
6	EMERGENCY DUMP LABEL	1	A-27730
5	PUSH BUTTON SWITCH	1	A-18328
4	ROTARY SWITCH	1	A-25968
3	TRAIN AIR BRAKE LABEL	1	A-24246
2	CONTROL BOX	1	B-31508
1	BOX LOCATION	1	D-31512
NO.	DESCRIPTION	QTY	PART NO.

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MACHINING TOLERANCES UNLESS OTHERWISE SPECIFIED ON DWG.	WELDING TOLERANCES UNLESS OTHERWISE SPECIFIED ON DWG.
2 PLACES = ±0.031	2 PLACES = ±0.094
3 PLACES = ±0.015	3 PLACES = ±0.063
4 PLACES = ±0.008	4 PLACES = ±0.031

REVISIONS			
ITEM	DATE	CHANGE	APRV
B	4-7-04	#14 WAS C-31511	JL
A	4-6-04	ADDED PARTS	JL

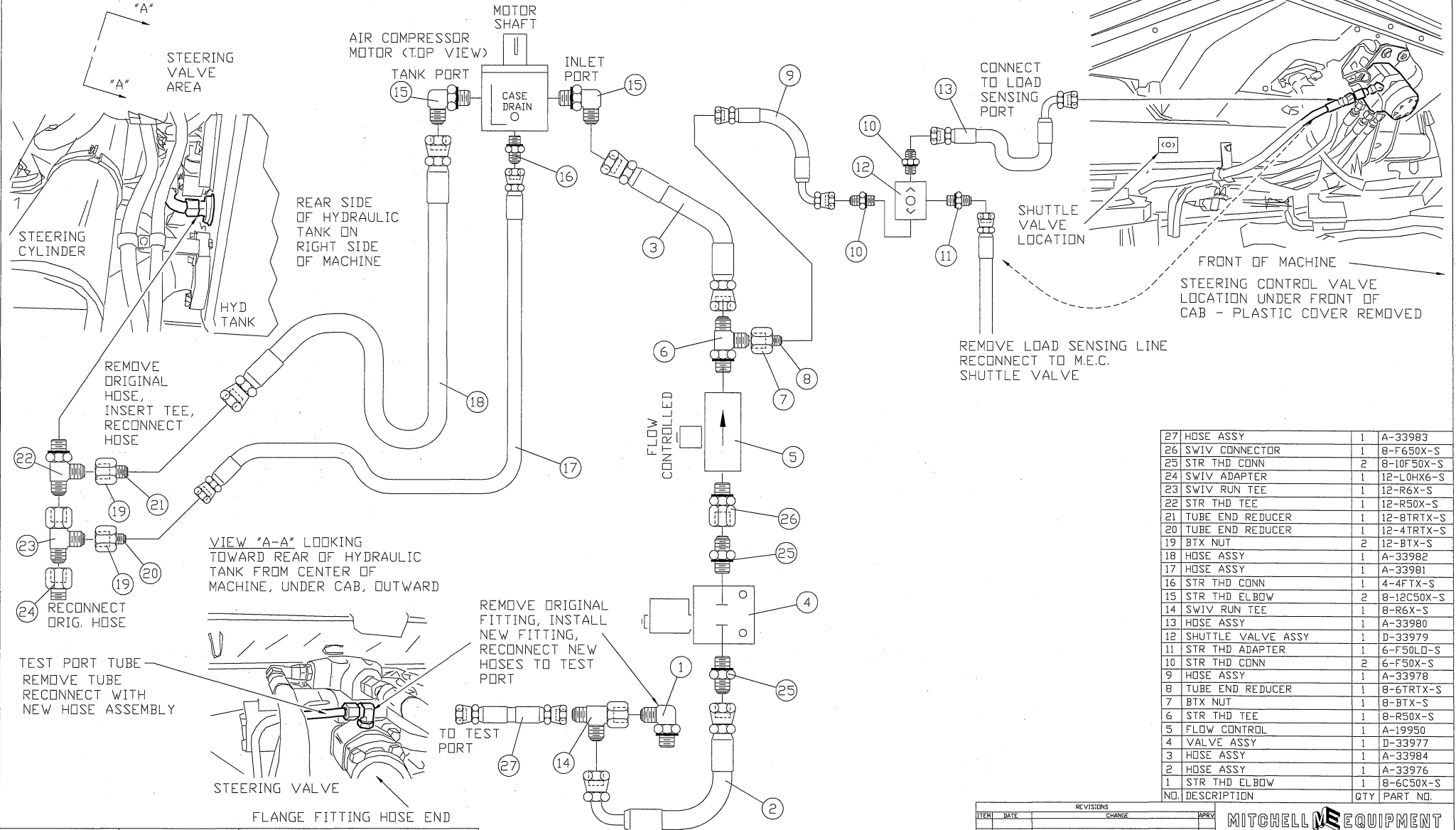
MITCHELL EQUIPMENT CORPORATION

SCALE: HALF DATE: 3-10-04 JOHN DEERE 644H DRAWN BY J W

TRAIN AIR BRAKE CONTROL BOX ASSY

DRAWING NUMBER B-33939

AM



27	HOSE ASSY	1	A-33983
26	SWIV CONNECTOR	1	8-F650X-S
25	STR THD CONN	2	8-10F50X-S
24	SWIV ADAPTER	1	12-LOHX6-S
23	SWIV RUN TEE	1	12-R6X-S
22	STR THD TEE	1	12-R50X-S
21	TUBE END REDUCER	1	12-8TRTX-S
20	TUBE END REDUCER	1	12-4TRTX-S
19	BTX NUT	2	12-BTX-S
18	HOSE ASSY	1	A-33982
17	HOSE ASSY	1	A-33981
16	STR THD CONN	1	4-4FTX-S
15	STR THD ELBOW	2	8-12C50X-S
14	SWIV RUN TEE	1	8-R6X-S
13	HOSE ASSY	1	A-33980
12	SHUTTLE VALVE ASSY	1	D-33979
11	STR THD ADAPTER	1	6-F50LD-S
10	STR THD CONN	2	6-F50X-S
9	HOSE ASSY	1	A-33978
8	TUBE END REDUCER	1	8-6TRTX-S
7	BTX NUT	1	8-BTX-S
6	STR THD TEE	1	8-R50X-S
5	FLOW CONTROL	1	A-19950
4	VALVE ASSY	1	D-33977
3	HOSE ASSY	1	A-33984
2	HOSE ASSY	1	A-33976
1	STR THD ELBOW	1	8-6C50X-S
	NO. DESCRIPTION	QTY	PART NO.

MACHINING TOLERANCES	
UNLESS OTHERWISE SPECIFIED ON DWG.	
2 PLACES = ±0.031	
3 PLACES = ±0.015	
4 PLACES = ±0.008	

WELDING TOLERANCES	
UNLESS OTHERWISE SPECIFIED ON DWG.	
2 PLACES = ±0.094	
3 PLACES = ±0.063	
4 PLACES = ±0.031	

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REVISIONS		
ITEM	DATE	CHANGE

MITCHELL EQUIPMENT CORPORATION

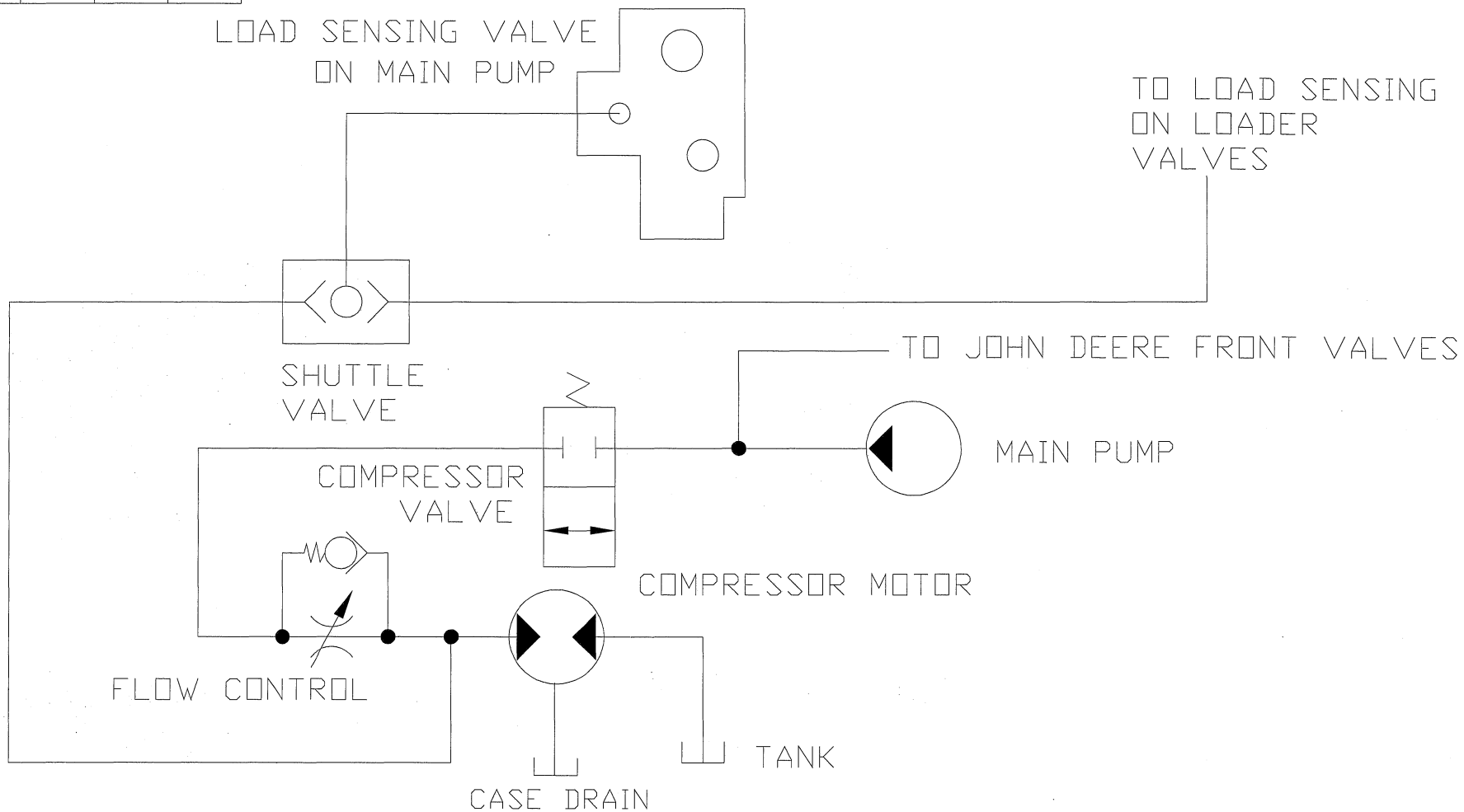
SCALE: NONE CAT 824H DRAWN BY: J.L.

DATE: 3-17-08

AIR COMPRESSOR HYDRAULICS

ASSEMBLY DRAWING NUMBER: D-37928

S



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REVISIONS

ITEM	DATE	CHANGE	APRV

MITCHELL ME EQUIPMENT CORPORATION

SCALE: NONE

DATE: 4-26-02

JOHN DEERE 544H

DRAWN BY
J L

COMPRESSOR HYDRAULIC SCHEMATIC

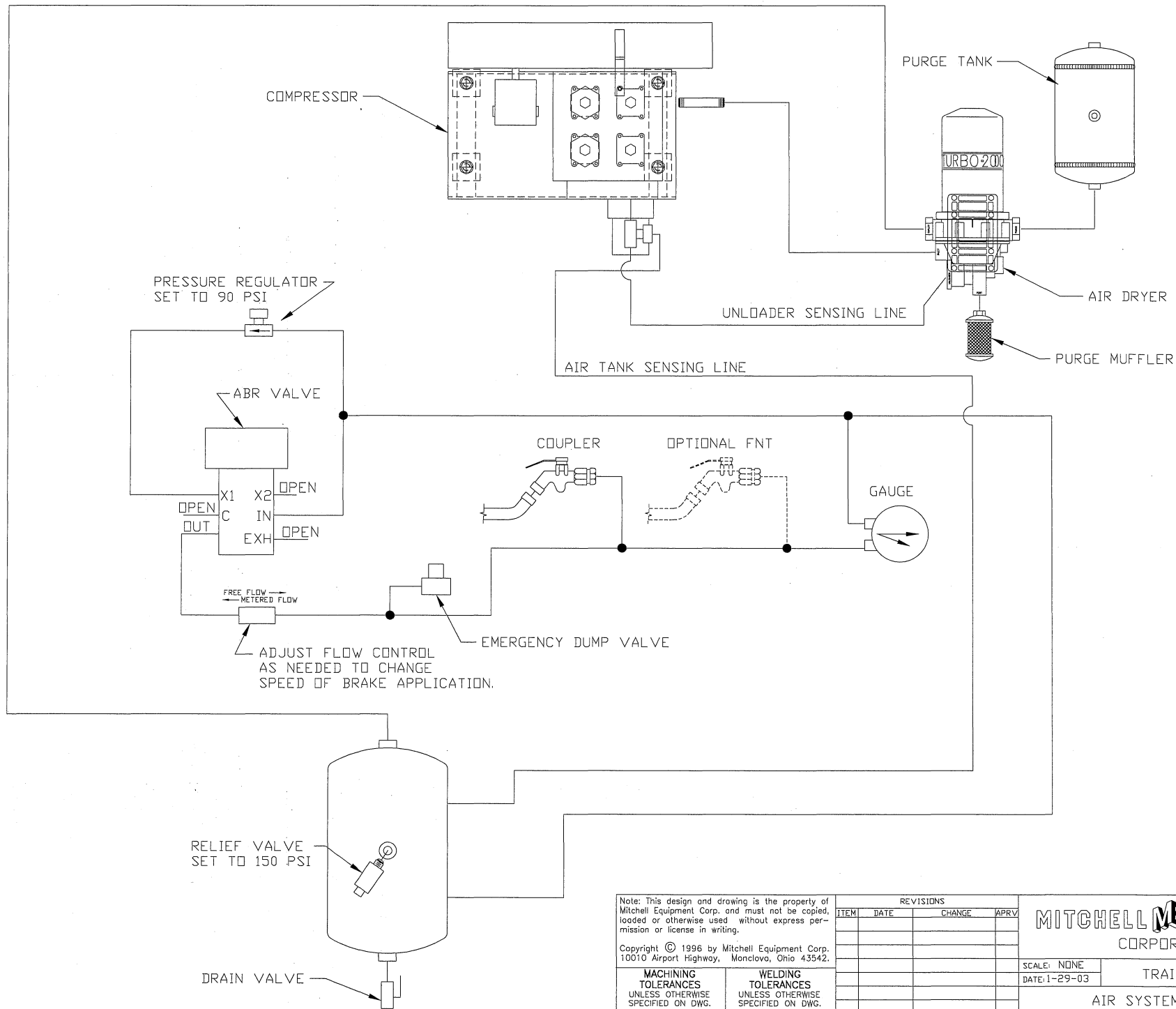
DRAWING NUMBER
A-31540

MACHINING TOLERANCES

UNLESS OTHERWISE SPECIFIED ON DWG.
2 PLACES = ±0.031
3 PLACES = ±0.015
4 PLACES = ±0.008

WELDING TOLERANCES

UNLESS OTHERWISE SPECIFIED ON DWG.
2 PLACES = ±0.094
3 PLACES = ±0.063
4 PLACES = ±0.031



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MACHINING TOLERANCES UNLESS OTHERWISE SPECIFIED ON DWG.	WELDING TOLERANCES UNLESS OTHERWISE SPECIFIED ON DWG.
2 PLACES = ±0.031	2 PLACES = ±0.094
3 PLACES = ±0.015	3 PLACES = ±0.063
4 PLACES = ±0.008	4 PLACES = ±0.031

REVISIONS			
ITEM	DATE	CHANGE	APRV

MITCHELL EQUIPMENT CORPORATION

SCALE: NONE
DATE: 1-29-03

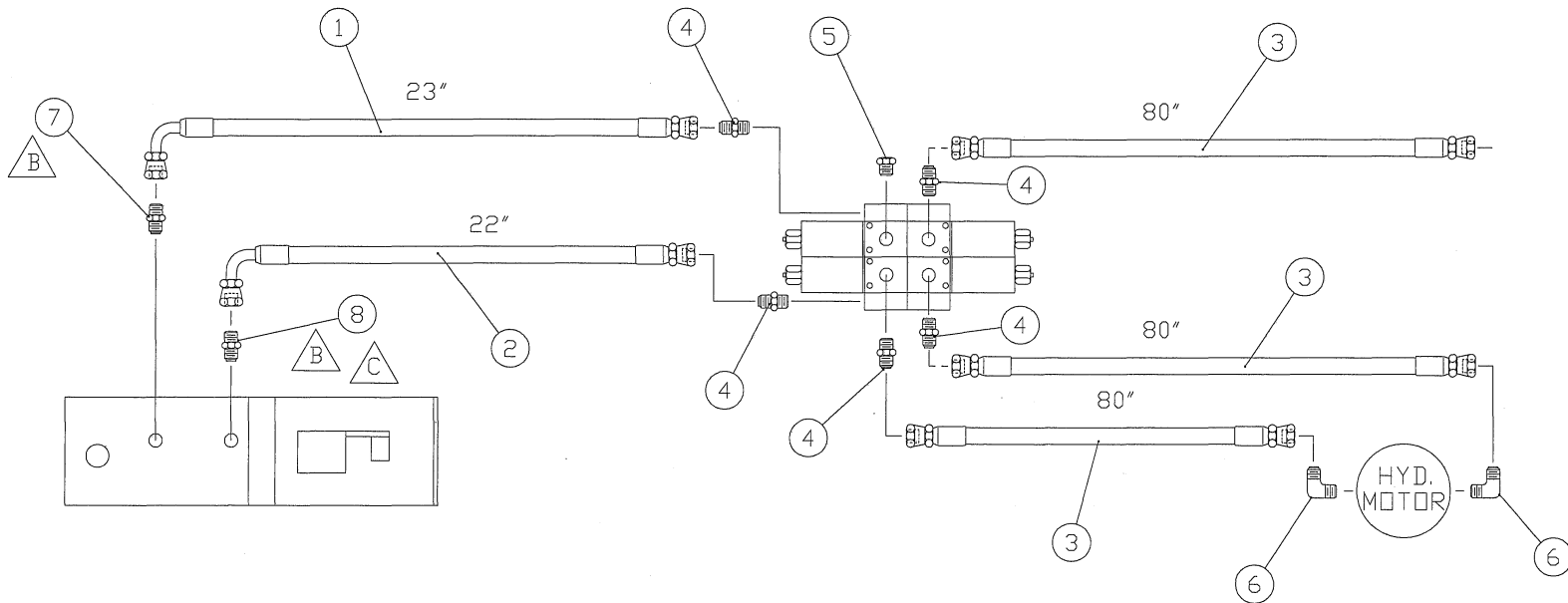
TRAIN AIR

AIR SYSTEM SCHEMATIC

SINGLE AIR TANK

DRAWN BY: J W
DRAWING NUMBER: C-32842

AM S



$\triangle C$	8	MALE CONNECTOR	1	6-FTX-S
	7	MALE CONNECTOR	1	6-6FTX-S
	6	6-12CTX-S OR 6-8CTX-S	2	6-10CTX-S
	5	PLUG	1	6-P50N-S
	4	UNION	5	6-F50X-S
	3	HOSE ASSY	3	A-29631
	2	HOSE ASSY	1	A-29630
	1	HOSE ASSY	1	A-29629
	NO.	DESCRIPTION	QTY	PART NO.

TOLERANCES	
UNLESS OTHERWISE SPECIFIED USE THE FOLLOWING (DIMENSIONS IN INCHES)	
2 PLACES	$\pm 1/16$
3 PLACES	$\pm 1/32$
4 PLACES	$\pm 1/64$

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WAS QTY. 2 ADDED ITEM 8 $\triangle C$

$\triangle B$ ADDED ITEM 7 5-24-02 JVW AND CHANGED ITEM 5

$\triangle A$ ADDED B.O.M. 6-15-01JL

REVISED DATE			SCALE: FULL	POWER SLIDE	DRAWN BY
3-22-04JL			DATE: 9-21-95	J W	
6-15-01JL	HYDRAULIC ASSEMBLY				DRAWING NUMBER
6-15-01JL	WITH HYDRAULIC PIN LIFT			B-16812	

AM	AE	W	P	S	.
----	----	---	---	---	---

4	AIR HORN SCHEMATIC	1	B-33884
3	RELAY INSTALLATION	1	C-33889
2	REAR AIR HORN ASSY	1	D-33882
1	FRONT AIR HORN ASSY	1	D-33879
NO.	DESCRIPTION	QTY	PART NO.

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REVISIONS

ITEM	DATE	CHANGE	APRV

MITCHELL **ME** EQUIPMENT CORPORATION

SCALE: NONE
DATE: 3-1-04

CAT 962G

DRAWN BY
J W

AIR HORN MASTER

DRAWING NUMBER
A-33892

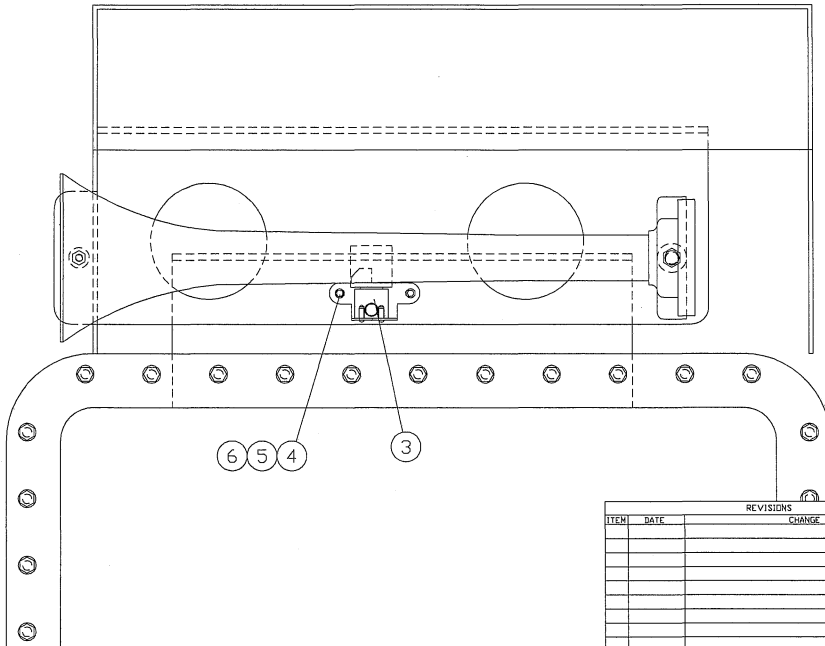
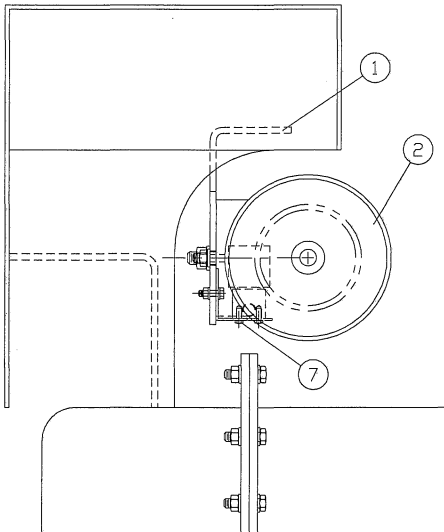
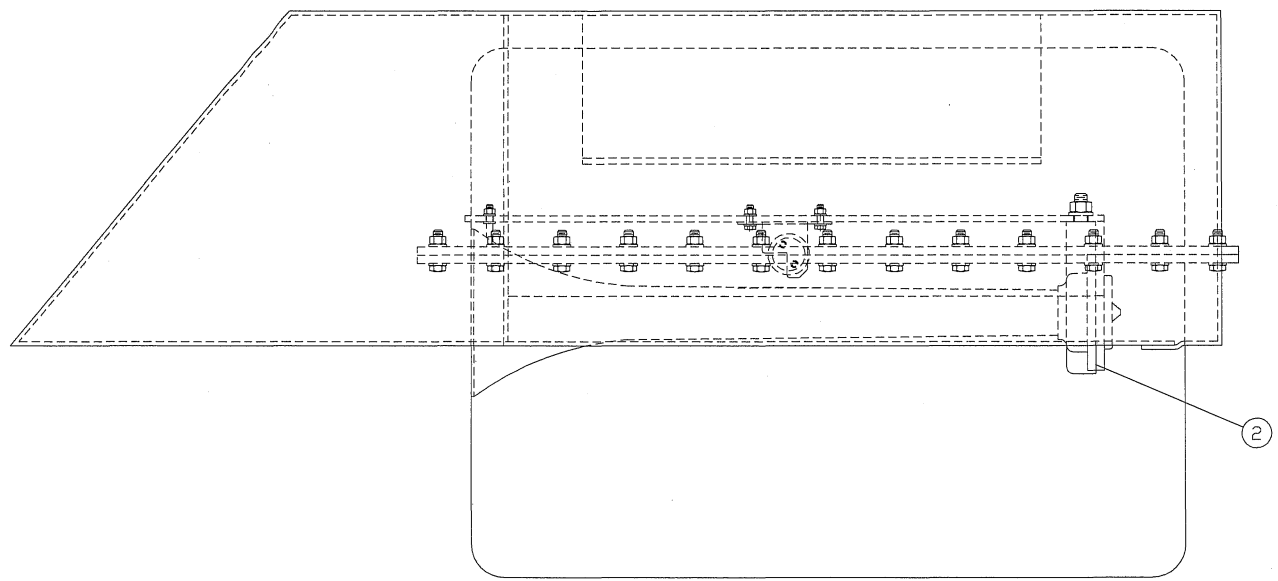
MACHINING TOLERANCES

UNLESS OTHERWISE SPECIFIED ON DWG.
2 PLACES = ±0.031
3 PLACES = ±0.015
4 PLACES = ±0.008

WELDING TOLERANCES

UNLESS OTHERWISE SPECIFIED ON DWG.
2 PLACES = ±0.094
3 PLACES = ±0.063
4 PLACES = ±0.031

AM S



NO.	DESCRIPTION	QTY	PART NO.
8	AIR HORN LINES	1	D-33880
7	#8-32 x .25" LG. SCREW	2	9B7242
6	#10-24 x .75" LG. SCREW	2	4B1232
5	#10 FLATWASHER	4	4B4274
4	#10-24 LOCK NUT	2	310249
3	VALVE	1	A-20732
2	AIR HORN	1	A-20859
1	MOUNT LOCATION	1	D-33868

MACHINING TOLERANCES
UNLESS OTHERWISE SPECIFIED ON DWG.
2 PLACES = ±0.031
3 PLACES = ±0.015
4 PLACES = ±0.008

WELDING TOLERANCES
UNLESS OTHERWISE SPECIFIED ON DWG.
2 PLACES = ±0.094
3 PLACES = ±0.063
4 PLACES = ±0.031

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ITEM	DATE	REVISIONS	APPROV
		CHANGE	

MITCHELL EQUIPMENT CORPORATION

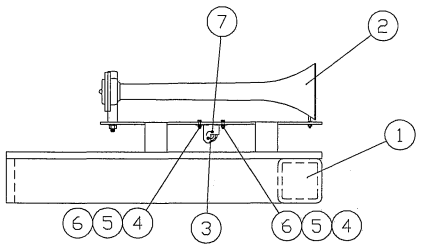
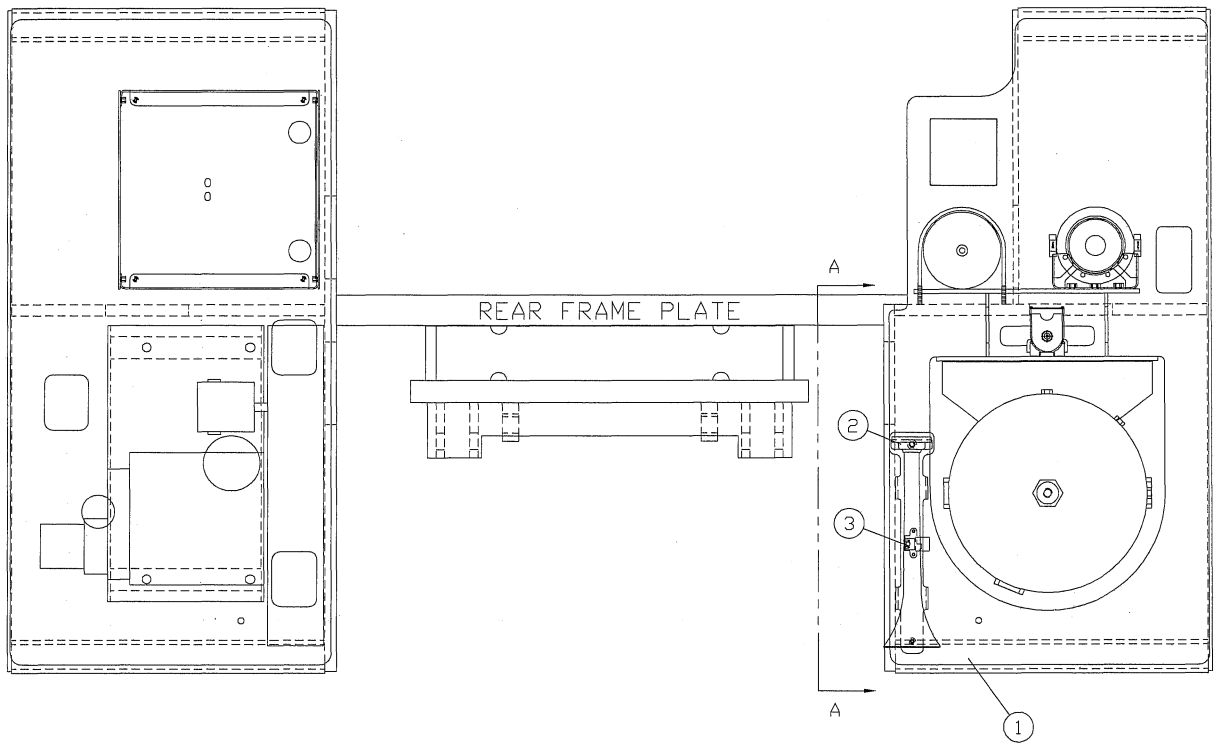
SCALE: HALF
DATE: 2-26-04

CAT 962G

FRONT AIR HORN ASSEMBLY

DRAWN BY: J W
DRAWING NUMBER: D-33879

AM AE S . . .



VIEW "A-A"

NO.	DESCRIPTION	QTY	PART NO.
8	AIR HORN AIR LINES	1	D-33883
7	#8-32 x .25" LG SCREW	2	9B7242
6	#10-24 x .75" LG SCREW	2	4B1232
5	#10 FLAT WASHER	4	4B4274
4	#10-24 LOCK NUT	2	3I0249
3	VALVE	1	A-20732
2	AIR HORN	1	A-20859
1	MOUNT LOCATION	1	D-33886

MACHINING TOLERANCES
UNLESS OTHERWISE SPECIFIED ON DWG.
2 PLACES = ±0.031
3 PLACES = ±0.015
4 PLACES = ±0.008

WELDING TOLERANCES
UNLESS OTHERWISE SPECIFIED ON DWG.
2 PLACES = ±0.094
3 PLACES = ±0.063
4 PLACES = ±0.031

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ITEM	DATE	REVISIONS		APPROV
		CHANGE		

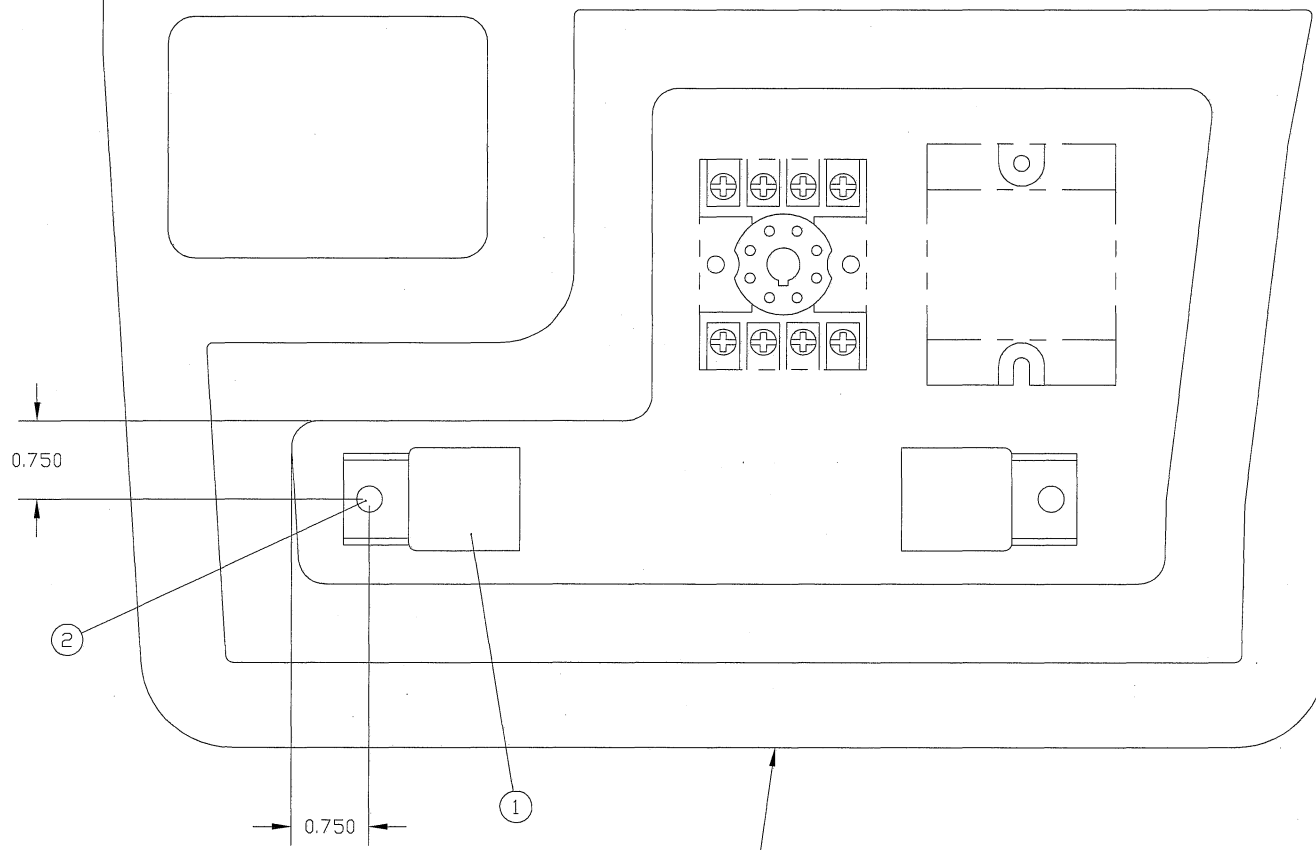
MITCHELL EQUIPMENT CORPORATION

SCALE: 1/6
DATE: 2-27-04

CAT 962G
DRAWN BY: J W

REAR AIR HORN ASSEMBLY

DRAWING NUMBER: D-33882



CAT 962G CONTROL CONSOLE LOCATED TO THE RIGHT OF THE OPERATOR SEAT. MITCHELL EQUIPMENT CONTROL PANEL INSTALLED ABOVE RELAY LOCATION. RELAY IS MOUNTED TO INSIDE BOTTOM OF CONSOLE BELOW ROTARY CONTROL SWITCH FOR TRAIN AIR.

2	SCREW	1	10583
1	AIR HORN RELAY	1	A-31583
NO.	DESCRIPTION	QTY	PART NO.

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REVISIONS			
ITEM	DATE	CHANGE	APRV

MITCHELL EQUIPMENT CORPORATION

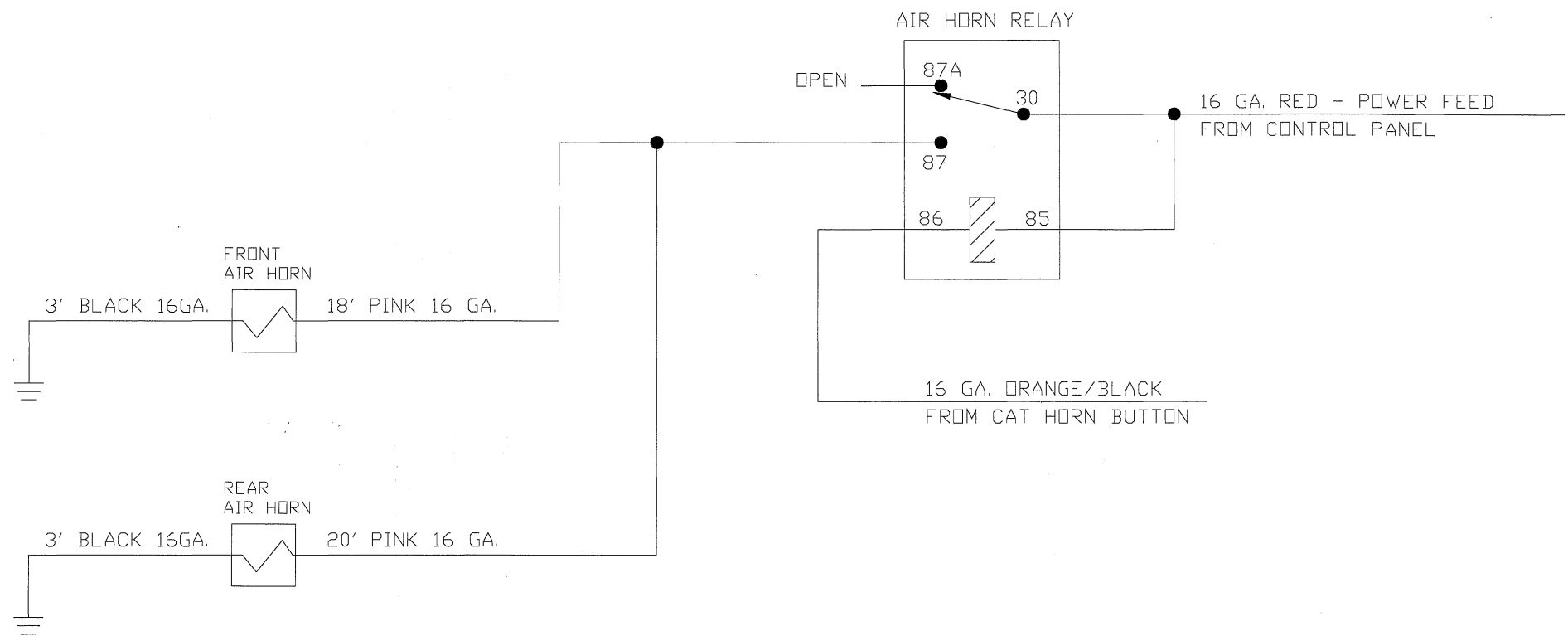
SCALE: FULL DATE: 3-1-04 CAT 962G DRAWN BY J W

AIR HORN RELAY INSTALLATION

ASSEMBLY DRAWING NUMBER C-33889

MACHINING TOLERANCES UNLESS OTHERWISE SPECIFIED ON DWG.	WELDING TOLERANCES UNLESS OTHERWISE SPECIFIED ON DWG.
2 PLACES = ±0.031	2 PLACES = ±0.094
3 PLACES = ±0.015	3 PLACES = ±0.063
4 PLACES = ±0.008	4 PLACES = ±0.031

AE S



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MACHINING TOLERANCES
UNLESS OTHERWISE SPECIFIED ON DWG.
2 PLACES = ±0.031
3 PLACES = ±0.015
4 PLACES = ±0.008

WELDING TOLERANCES
UNLESS OTHERWISE SPECIFIED ON DWG.
2 PLACES = ±0.094
3 PLACES = ±0.063
4 PLACES = ±0.031

REVISIONS			
ITEM	DATE	CHANGE	APRV
A	4-6-04	TRIP WITH GND	JW

MITCHELL EQUIPMENT CORPORATION

SCALE: NONE
DATE: 2-27-04

CAT 962G

DRAWN BY
J W

AIR HORN RELAY SCHEMATIC

DRAWING NUMBER
B-33884



STATIC INSPECTION TORQUE (LB. FT.)

METRIC THD SIZE	INCH THD SIZE	GRADE 2		GRADE 5		GRADE 8	
		METRIC	INCH	METRIC	INCH	METRIC	INCH
M6	--	4	--	7	--	7	--
--	1/4	--	4	--	7	--	7
--	5/16	--	10	--	14	--	15
M8	--	11	--	15	--	17	--
--	3/8	--	17	--	28	--	30
M10	--	24	--	33	--	35	--
--	7/16	--	33	--	41	--	48
M12	--	41	--	59	--	63	--
--	1/2	--	48	--	63	--	74
M14	--	63	--	96	--	107	--
--	9/16	--	63	--	96	--	107
--	5/8	--	96	--	129	--	148
M16	--	107	--	148	--	170	--
--	3/4	--	170	--	236	--	273
M20	--	210	--	295	--	339	--
--	7/8	--	295	--	398	--	450
M24	--	339	--	516	--	590	--
--	1	--	398	--	590	--	664
--	1-1/8	--	590	--	848	--	959
M30	--	645	--	1033	--	1180	--
--	1-1/4	--	848	--	1180	--	1364
--	1-3/8	--	1033	--	1549	--	1770
M36	--	1180	--	1770	--	2028	--
--	1-1/2	--	1365	--	2028	--	2360

NOTES:
REDUCE TORQUE VALUES BY 25% WHEN USING LOC-TITE, OR THREADING INTO A TAPPED HOLE.

REDUCE TORQUE VALUES BY 25% WHEN USING LOC-TITE IN A TAPPED HOLE.

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REVISIONS

ITEM	DATE	CHANGE	APRV
A	8-12-03	MORE ACCURATE	JL

MITCHELL **ME** EQUIPMENT CORPORATION

SCALE: NONE
DATE: 3-5-96

GENERAL

DRAWN BY
J L

STATIC INSPECTION TORQUE CHART

SEE NOTES

DRAWING NUMBER
A-17861

MACHINING TOLERANCES
UNLESS OTHERWISE SPECIFIED ON DWG.
2 PLACES = ±0.031
3 PLACES = ±0.015
4 PLACES = ±0.008

WELDING TOLERANCES
UNLESS OTHERWISE SPECIFIED ON DWG.
2 PLACES = ±0.094
3 PLACES = ±0.063
4 PLACES = ±0.031

WARRANTY

MITCHELL EQUIPMENT CORPORATION

Mitchell Equipment Corporation is hereafter called the COMPANY.

The products manufactured by the COMPANY, exclusive of used or rebuilt machinery or equipment, are subject to the following warranty:

(A) Warranty

All of the COMPANY's products are of high quality and are manufactured in conformity with the best commercial practices in the various times. The COMPANY warrants all products manufactured by it to be free from defects in material and manufacture at the time of shipment for twelve (12) months from the date of shipment from COMPANY's plant, or 1500 hours of operation, whichever shall occur first. The COMPANY will furnish without charge F.O.B. its plant, replacement for such parts as the COMPANY finds in its sole judgment, the part to have been defective at the time of shipment, at the COMPANY's option, will make or authorize repairs to such parts, provided that, upon request, such parts are returned, transportation prepaid, to the factory from which they were shipped. Labor for warranty repair will be paid under a formula determined solely by the COMPANY. The COMPANY's labor obligation does not include travel time, shipping the attachment or machine to and from an authorized service facility, or the cost to investigate warranted or unwarranted complaints. All warranty claims are subject to prior COMPANY approval. Products sold by the COMPANY but not its manufacturer are subject, solely to the warranty terms and condition of the product's particular manufacturer.

Hydraulic Attachment Cylinders, Valves and Air Components

COMPANY warrants its products to be free from defects in material and workmanship for a period of one year from date of sale or 1500 hours. Defective parts, if adjudged defective upon inspection by the COMPANY, will be replaced on a no charge basis, F.O.B. factory. COMPANY is not responsible for parts damaged by alteration, unauthorized service, accident, abuse or excessive pressure setting. The COMPANY is not responsible for damage caused by contamination from the base machine.

(B) Limitations of Liability

In no event, whether as a result of breach of contract warranty, or alleged negligence or liability without fault, shall the COMPANY be liable for special, incidental or consequential damage, including, without limitations, loss of profit or revenue, loss of use of the attachment or parts or any associated equipment, cost of capital, cost of substituted equipment, facilities or services, downtime costs, labor costs or claims of distributor, end users or leases for such damages. The company shall have no obligation under this warranty; For any defects caused by misuse, negligence, accident, or failure to maintain or use in accordance with the Operator, Maintenance Manual; for unauthorized alterations; for defects or failures caused by any parts, other than COMPANY's genuine parts and/or components; for failure to conduct normal maintenance and operating service as defined in the Operator, Maintenance and Safety Manuals.

The foregoing Warranty is exclusive and in lieu of all other expressed, statutory and implied warranties applicable to attachment, parts and/or components including, without limitations, all implied warranties of merchantability or fitness for any particular purpose. The COMPANY reserves the right to make alterations or modifications in their equipment at any time, which in their opinion, may improve the performance and efficiency of the attachment. They shall not be obligated to make such alterations or modifications to attachments already in service or inventory. Any operation expressly prohibited in the Operator, and Safety Manual furnished with the machine or attachment, or any adjustment, or assembly procedure not recommended or authorized in the Operator, Safety Manual shall void such Warranty.

All components are Warranted F.O.B. factory. A factory issued Return Goods Authorization (RGA) number must accompany any returned shipments.

All warranty claims must be submitted on Mitchell Warranty Claim Forms. A COMPANY preassigned Warranty Claim (WCN) Number must be on Warranty Claim Form. Call Company for (WCN) Number prior to performing Warranty Work.

For service call the COMPANY (734) 529-3400

In order to validate the Warranty, the following must be completed and one copy returned to the COMPANY.

Model _____ Serial Number _____

Print Customer Name _____

Delivery Date _____

Customer Authorized Signature _____

Distributor Name _____

Company Name _____

Distributor Address _____

Company Address _____

Distributor Phone _____

Company Phone _____