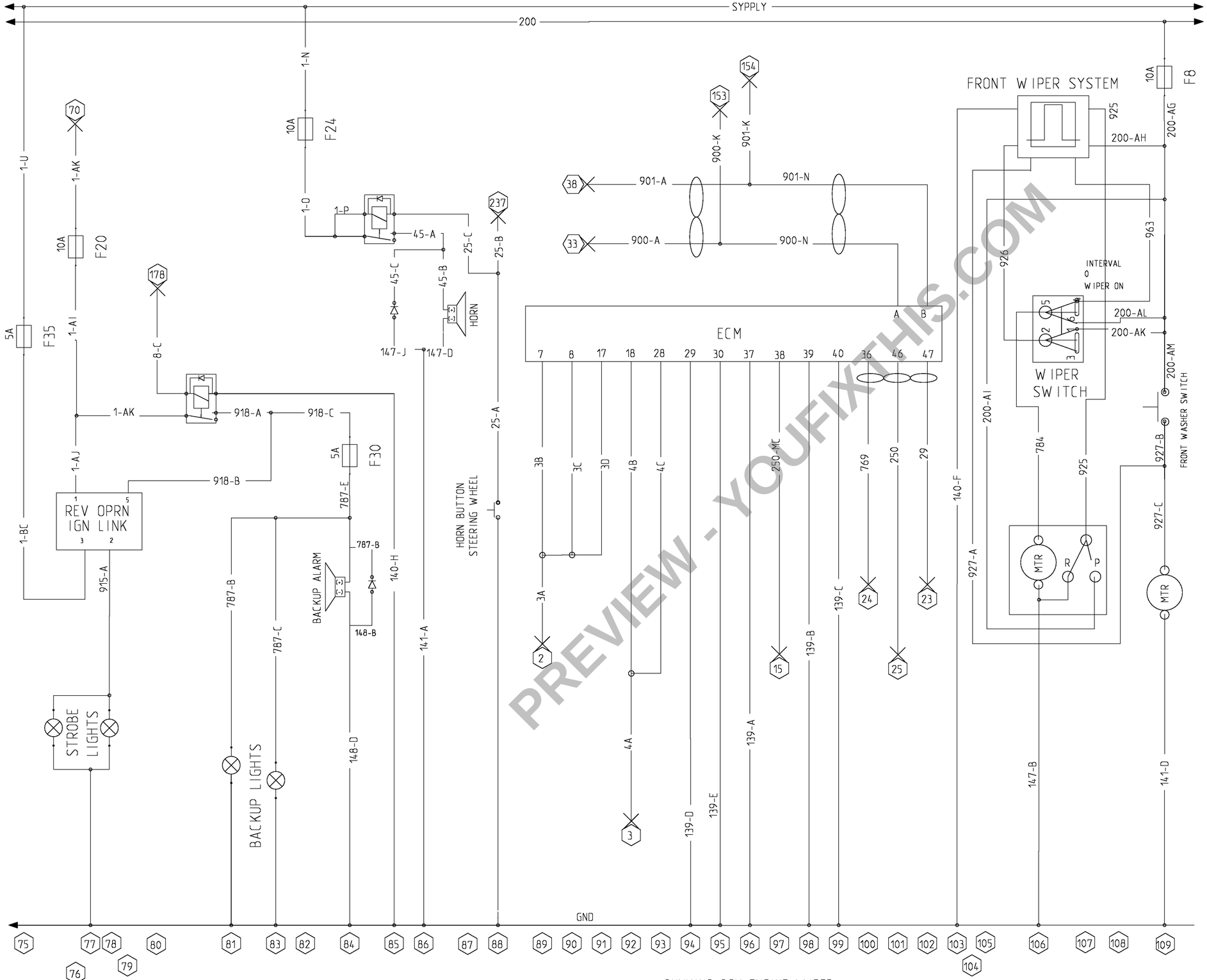


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REVISED DATE: 28-JUL-2011 CO: 68596-20	CHANGES FOR THIS REVISION
MASS (REF) kg	
SIMILAR TO	
MATERIAL SPECIFICATIONS	
UNLESS OTHERWISE SPEC'D DIMS ARE: IN mm AND TOLERANCE FOR: WHOLE DIMS ± / 1 PLACE DIMS ± / 2 PLACE DIMS ± / ANGLE DIMS ±	NAME: ELECTRICAL SCHEMATIC - A289
SCALE: THIRD ANGLE PROJECTION	SHEET OF: 3/15
DRAWING NUMBER: 4033027	R: 0

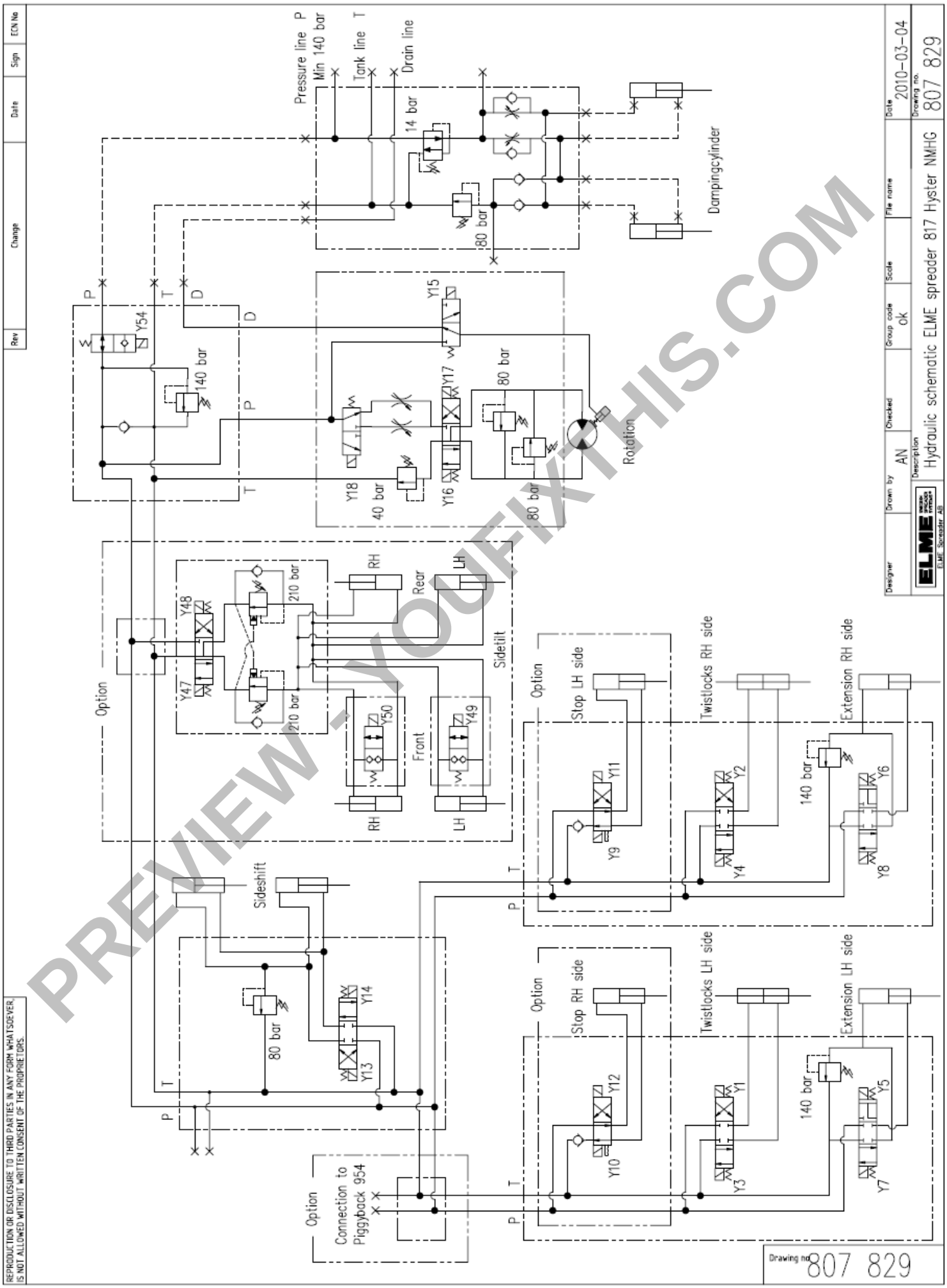
CO ORIGINATED BY: ABHIJIT SALUNKHE

DRW FIRST USED: -

RELEASED

PRO/E 2-D

A0



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Manual release of the parking brake caliper will result in loss of brakes.

1. The towed ReachStacker must have an operator.

2. Tow the ReachStacker slowly.

3. Tow the ReachStacker from lifting points of counterweight attached to frame.

4. If another ReachStacker is used to tow the disabled ReachStacker, that ReachStacker must have an equal or larger capacity than the disabled ReachStacker.

5. Use a towing link made of steel that attaches to the tow pins in the counterweights of both ReachStackers.

How to Put a ReachStacker on Blocks

⚠ WARNING

The ReachStacker must be put on blocks for some types of maintenance and repair. The surface must be solid, even, and level when the ReachStacker is put on blocks. Make sure that any blocks used to support the ReachStacker are solid, one-piece units. Do not use component lifting points on the boom or frame to lift the ReachStacker.

How to Raise the Drive Tires

1. Apply the parking brake. Put blocks on both sides, front, and back of the steering tires to prevent movement of the ReachStacker. See Figure 21.

2. Fully lower and retract the boom.

3. Use a hydraulic jack under the drive axle, where it supports the frame. Leave room for blocks to be placed close to the drive tires. Make sure that the jack has a capacity of at least 45,000 kg (99,208 lb), equal to at least half the weight of the ReachStacker. See the nameplate.

4. Put blocks under the drive axle, close to the drive tires. Lower the jack until the drive axle rests on the blocks.

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Daily Inspections

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Table 17. Condition Check
(See Figure 23)

Item No.	Item	Procedure
	Safety Labels	Check for presence and readability. See **Parts Manual**.
33	Boom, Rotator, and Spreader	Check condition.
21	Air Pre-Cleaner Dust Bowl	Check dust level in bowl. Empty bowl when dust is present.
	Tires and Tire Pressure	Check condition and pressure. See Nameplate. Check for missing wheel nuts.
26	Drive Belt	Check condition.
	Engine Air Intake and Charge Air Piping	Check for wear points, damage to piping, leaks, loose clamps, or loose connections.
	Fuel, Oil, and Coolant Leaks	Check for leaks.
22, 3	Radiator Sections for Engine Coolant, Charge Air Cooler, Transmission and Hydraulic Oil	Check fins and clean if necessary. Check hoses and tube connections for leakage.
	Coolant Hoses	Inspect for cracks, cuts, and collapsing.
	Engine Compartment	Remove combustible materials.

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ReachStacker Specifications

Hyster Eur Model	Truck Length (with counter-weight) mm	Engine Model	Engine Size (L)	Engine Power (kW)	Travel Speed (loaded/ unloaded) kph	Gradeability (loaded/ with 1.6 kph) %
RS45-27CH	8058	Cummins QSM 11	10.8	224	19.9/23.1	22
				250	21.3/23.4	26
RS45-31CH	8058	Cummins QSM 11	10.8	224	19.9/23.1	22
				250	21.3/23.4	26

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How to Store a ReachStacker

The following storage procedures are for conditions and temperatures above 0 °C (32 °F). Adjust these procedures for local conditions and any changes in conditions during storage. The preparations necessary for storage are also determined from the following conditions:

- Short-term storage is from 1 to 6 months. Long-term storage is over 6 months.
- Storage Location. A ReachStacker stored indoors will NOT require as much external protection as a ReachStacker stored outdoors.

Short-Term Storage

Do the following steps to prepare the ReachStacker for storage from 1 to 6 months:

1. Check lubricant and fluid levels. Completely fill the fuel tank. Make sure the coolant mixture will protect cooling system and engine to lowest temperature expected during storage. Make sure all caps and dipsticks are installed correctly.

2. Fully lower and retract the boom. Apply a thin coat of engine oil to the cylinder rods.

3. Check that all switches and accessories are in the **OFF** position.

4. If the ReachStacker must be left on an incline, put blocks on the down hill side of the wheels so that the ReachStacker cannot move. Do not use the parking brake.

5. Disconnect the battery cables from the batteries. Apply a protective coat to the cable connectors and battery terminals to prevent corrosion.

6. Check the tire pressure. Make sure the tires have the correct pressure. See the Nameplate.

7. Clean the ReachStacker and engine compartment to prevent corrosion.

8. If the ReachStacker is NOT stored in a shelter, put a cover over the ReachStacker to prevent damage from the weather. In wet conditions, a cover will NOT prevent corrosion to a ReachStacker that is in long-term storage outside of a dry storage area.

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Table 1. Seat Controls
(See Figure 4)

Item No.	Item	Function
1	Seat Belt and Seat Belt Retractor	Seat belt must be properly fastened before starting lift truck operations.
2	Arm Rest Adjustment	Controls the angle of the armrest.
3	Back Rest Adjustment	Controls the vertical angle of the backrest. **LIFT** the lever to release the backrest and **PUSH** down the lever to lock the backrest in position.
4	Air Seat Height Adjustment	Controls the height of the seat. **PUSH** the knob to raise seat. **PULL** the knob to lower seat.
5	Air Seat Firmness Adjustment	Controls the firmness of the seat.
6	Forward/Backward Seat Movement	Controls the **FORWARD** and **BACKWARD** movement of the seat on the seat rails. **LIFT** lever to release the seat for adjustment, and **PUSH** lever down to lock the seat in position.
7	Mechanical Seat Height Adjustment	Controls the height of the mechanical seat. Rotate this knob to raise or lower the height of the seat.

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SUPPLY
SUPPLY
200
200-C
20A
F28
200-BW
200-BU
1-J
15A
F33
1-X
10A
F6
200-DH
3A
F36
10A
F10
10A
F9
HEATER/AC
UNIT
1
gray
47 OHM
AC SWITCH
FAN SWITCH
L
M
H
REC IRC
TEMP
47 OHM
white
orange
green
red
white
black
ANTI ICING
MTR
FLAPPER DOOR
ACTUATOR
MTR
WATER
VALVE
MTR
H
MTR
CIRCULATION FAN
1-AL
CONVERTER
V1
(24V)
V2
(12V)
1-Y
33-A
10A
F32
10A
F31
200-DD
33-C
12 V RELAY
33-D
33-B
ROOF WIPER SYSTEM
786-B
200-AW
931
200-AT
REAR WIPER SYSTEM
200-K
935
200-H
786-A
929
MTR
R
P
200-AU
785-A
933
MTR
R
P
MTR
200-J
146-H
141-C
140-B
141-B
141-E
932
AC
COMPRESSOR
5 4 3 2 1
P1
P2
K1
K2
K3
MTR
MTR
MTR
CONDENSER
141-G
34-A
34-C
CB/COMMS POWER
CONNECTION
146-G
34-B
RADIO
923
922
921
920
POWER SKT
140-R
146-J
140-E
GND
110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141

W.IPER/HVAC/RAD.IO/12V

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DATE: 28-JUL-2011
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kg

SIMILAR TO

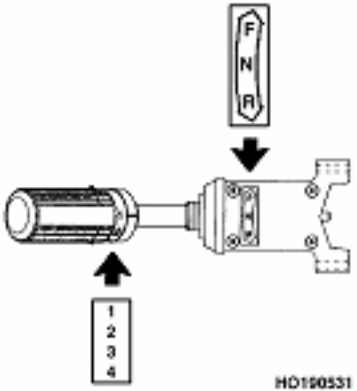
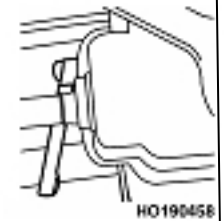
MATERIAL SPECIFICATIONS

UNLESS OTHERWISE SPEC'D DIMS ARE IN mm AND TOLERANCE FOR:
WHOLE DIMS ±
1 PLACE DIMS ±
2 PLACE DIMS ±
ANGLE DIMS ±

NAME
ELECTRICAL SCHEMATIC
- A289

SCALE
THIRD ANGLE PROJECTION
SHEET OF 4/15
DRAWING NUMBER 4033027
R 0

CO ORIGINATED BY: ABHIJIT SALUNKHE
DRW FIRST USED: -
RELEASED
PRO/E 2-D
A0

Item No.	Item	Function
1 (cont)	Shift Lever 	**3** - Third position will allow the transmission to automatically shift between second and third gears depending on speed. **4** - Fourth position allows transmission to automatically shift between second, third, and fourth gear depending on speed. **NOTE:** All four speeds are available in the **FORWARD** and **REVERSE** direction of travel as selected by the operator. **NOTE:** The transmission will automatically shift to **NEUTRAL (N)** if the transmission oil pressure is low or if the oil is too hot. This will occur with the lever in any position. To override the transmission protection in case of emergency, turn the key switch **OFF** and then **ON** and restart the engine. This will allow lift truck movement in first gear for 30 seconds.
2	Steering Column Adjustment 	**⚠ WARNING** **Make sure steering column adjustment lever is locked into place before moving ReachStacker. Never attempt to adjust steering column when ReachStacker is moving or personal injury may occur.** Steering column tilts **FORWARD**, **BACKWARD**, and **TELESCOPES** for adjustment. Release lever and move steering column to desired position, then fasten lever.

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How to Raise the Steer Tires

1. Apply the parking brake. Put blocks on both sides (front and rear) of the drive tires to prevent movement of the ReachStacker. See Figure 21.

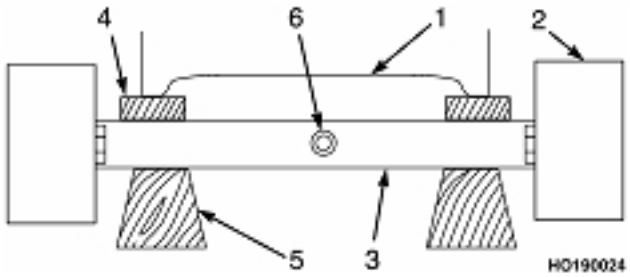
2. Put blocks between the steering axle and the frame. See Figure 22.

WARNING

DO NOT put jack under the counterweight to raise the lift truck.

3. Place a hydraulic jack under center of steering axle to raise the steering tires. Make sure that the jack has a capacity of at least 2/3 of the total weight of the ReachStacker. See the Nameplate.

4. Put blocks with steel plates under both sides of the steering axle to support the ReachStacker.



1. FRAME
2. WHEEL
3. STEERING AXLE
4. BLOCKS BETWEEN FRAME AND AXLE
5. SUPPORT BLOCKS
6. STEERING AXLE PIVOT POINT

Figure 22. Steering Axle Blocks

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Periodic Maintenance Schedule

Table 22. Inspect and Adjust
(See Figure 23)

Item No.	Item	Interval	Procedure
11, 12	Drive Axle/Differential Oil	250 hr/1 mo	Check level. SAE 80W-90 or SAE 85W-140 API GL-5
6	Oil Type Steer Wheel Hubs	250 hr/1 mo	Check Oil Level. Oil type MIL-L-2105D API GL-5 SAE 90.
	Wheel Nuts		Check torque.
23	Oil Type Steer Wheels	500 hr/3 mo	335 to 365 N•m (247 to 269 lbf ft)
	Grease Type Steer Wheels		400 N•m (295 lbf ft)
30	Drive Wheels	500 hr/3 mo	405 to 440 N•m (299 to 325 lbf ft)
18	Hydraulic Tank Breather	500 hr/3 mo	Inspect restriction indicator. Replace element if necessary. See **Parts Manual**.
26	Drive Belt	500 hr/3 mo	Check tension and condition. Replace if necessary. See **Parts Manual**.

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Equivalent Oils, Lubricants and Other Liquids for Hyster RS45 (A289)

HYSTER Item	Qty, L	NMHG Spec.	Specification	Equivalent	Temperature range in ^{0}c
Hydraulic System Oil	605+ 850	HCE - 102	John Deere JDM-J20C	Balmer Lawrie Protomac H68 oil	(-) 20 to 90
Engine Oil	34	HCE-29 Class-3	Sae 15W-40, 18 C (0 F) and up. API CH-4/SJ	Castrol New RX SuperPlus	0 to 105
Hydraulic Oil Additive	3-6%by vol. in Hyd. /Eng oil	4096428	Lubriisol 9990A Additive	-	(-)20 to 90
Transmission Oil	62	HCE-32	Dexron III	PROTO TRANS DEX III	(-) 20 to 170
Differential Oil	40	HCE-41	SAE80W-90 or SAE85W-140 API GL-5	Balmer Lawrie Protomac HP 140 (SPL)	(-) 20 to 80
Planetary End DriveOil	25	HCE-41			
Spreader Rotator Transmission Oil	2.8	HCE-41			
Steer Wheel Hubs	8	HCE-41			
Engine Coolant	40	HCE-118	Shell HD premium coolant or equivalent	Inhibitor corrosion: Cummins P No: 4926654	0 to 97
Multi-Purpose Grease with Moly		HCE-38		Balmerol Licom 3M	(-) 20 to 180
Multi-Purpose Grease without Moly		HCE-159		Balmerol Licom 2	(-) 20 to 160
Air Conditioning System	1600 gms	Refrigerant 134A	Lubricant and refrigerant	Refrigerant 134A	
Window Washer	5	HCE-174			

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