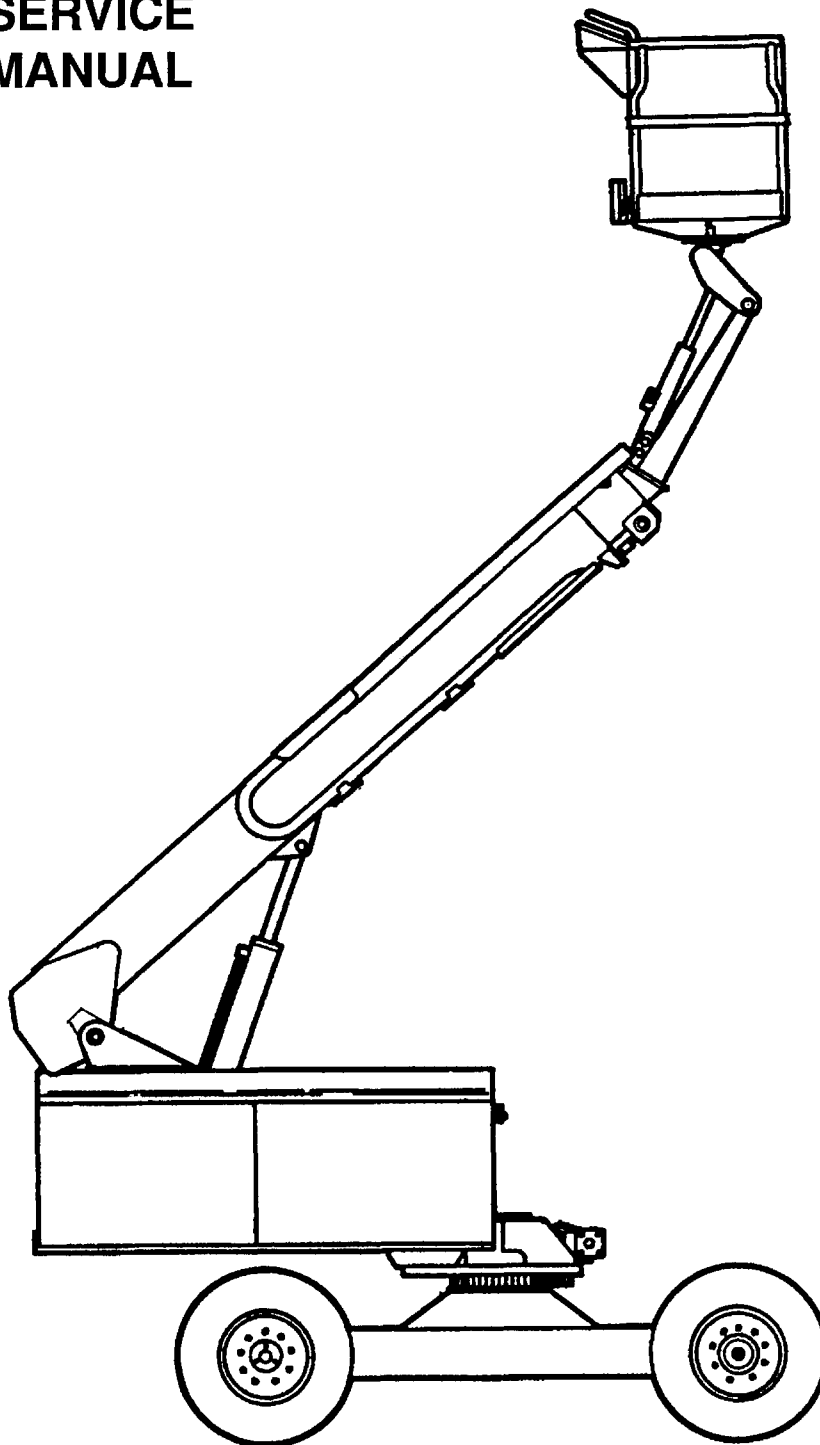


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**MP SERIES  
MODEL  
HYDRAPORT**

# SIMON

**SERVICE  
MANUAL**



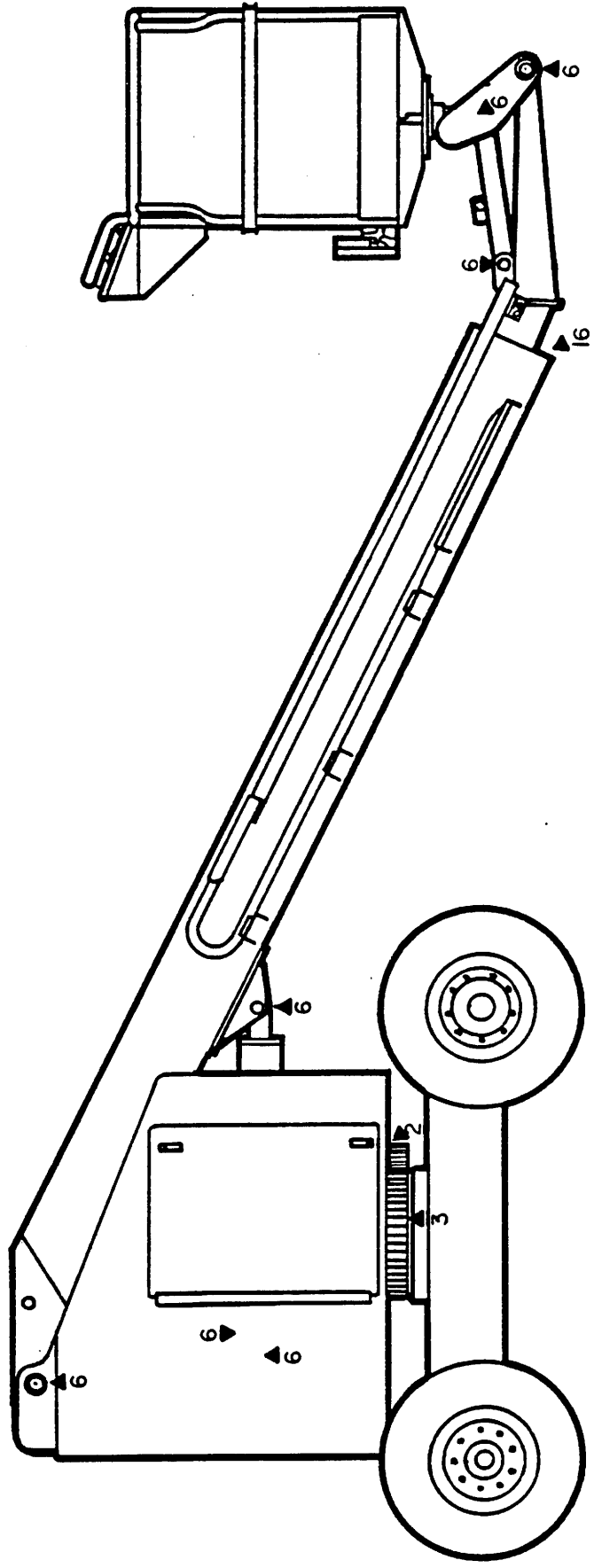
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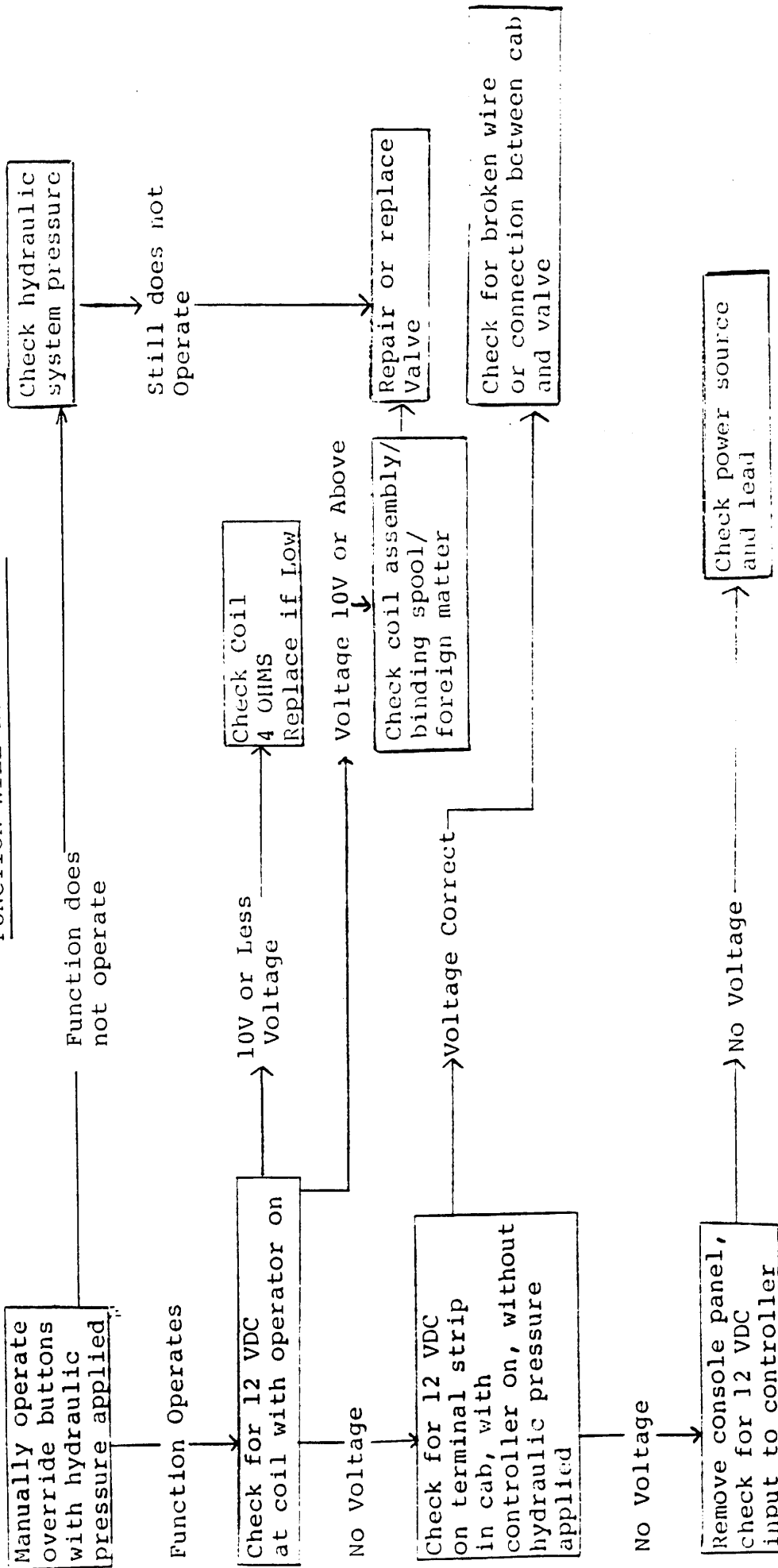
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LUBRICATION DIAGRAM

FUNCTION WILL NOT OPERATE



MOST PROBABLE CAUSES

1. Ground override switch in ground position.
2. Binding spool or foreign matter in spool.
3. Emergency pump operation, cab emergency kill button engaged
4. 24 conductor cable malfunction.

## DEUTZ ENGINE

1. Starter stays engaged
  - A. Start button sticking
  - B. Relay sticking
2. Engine quits after 30 seconds.
  - A. Oil pressure switch stuck closed or no oil pressure.
  - B. Wire # 20 is grounded energizing the 30 second safety relay.
  - C. Start button or plug-in relay sticking closed.
3. The rack (fuel shut off) will not shut the engine off.
  - A. Injector fuel shut off shaft is clogged with dirt.
  - B. Fuel shut off arm spring broken.
  - C. The bolt holding the rack solenoid bell crank is too tight and/or needs cleaning.
  - D. The rack solenoid is adjusted improperly, causing the shaft to bind, or adjusted to not allow the linkage to go to the off position.
4. Rack solenoid failure.
  - A. See items A - C and D above.
  - B. If the solenoid is not adjusted to be bottomed out with the rack linkage in the full open position, the holding coil will not engage and the pulling coil will not disengage (The pulling coil will not take a continuous amp load without destruction of the coil very quickly). Also, if you allow the linkage to bottom out completely, when engaged, destruction of the linkage could occur.
5. Excessive engine vibration at idle.
  - A. All Deutz engines have a high quivering (vibration) point, that usually occurs between 700 rpm and 1300 rpm. By setting the idle rpm above this point, excessive destructive vibration will be eliminated.

## V 465 WISCONSIN ENGINE

1. Engine floods when starting unit.
  - A. Choke operator piston sticking.
  - B. Choke set too rich.
  - C. Starting engine on high throttle, (engine should be started on low rpm or vacuum loss will not allow choke piston to operate).
  - D. Throttle linkage binding or out of adjustment not allowing carburetor to go into idle, or idle rpm set too high causing an intake vacuum loss.
  - E. An electric solenoid operated choke is available to eliminate this condition.

## SWING

REF. #

① Selector Valve

Solenoid operated with a manual override, 3 position 4 port valve with a motoring spool. Selects fluid pressure to the swing circuit for clockwise or counterclockwise upper frame rotation. The motoring spool allows a return to relieve brake pressure in the swing circuit.

② Orifices

Controls maximum rotation speed by limiting the amount of fluid into the swing circuit.

③ Flow Valve

Adjustable, used on large units.

To prevent the boom from moving faster than the motor directs it to on down hill swings, it also controls boom tendencies to stop and go.

④ Shuttle Valve

Selects either clockwise or counterclockwise pressure into the gear box brake to release the brake.

⑤ Swing Motor

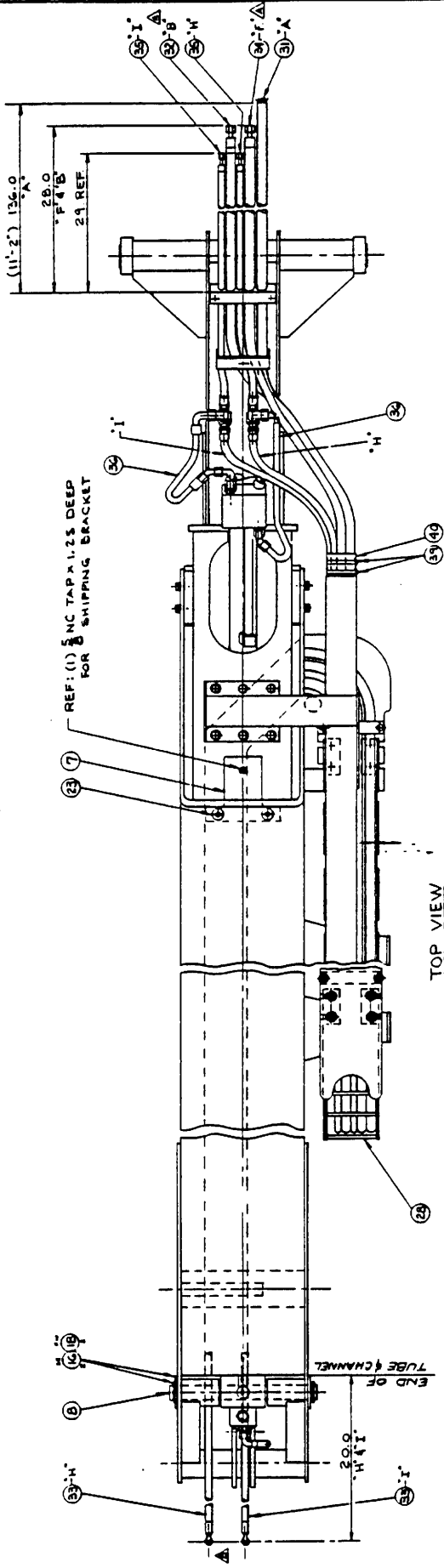
Rotor driven keyed to a shaft which in turn powers the gear reducer, (or worm reducer lower view) for swing.

⑥ Swing Brake

Multiple disc type, part of the gear box. Prevents the pinion shaft from taking the full load during quick stops by allowing the pinion to slip during overloads.

ITEM	TROUBLE SHOOTING	ADJUSTMENTS	REPAIR	MISC.	PARTS
1 Selector Valve	M5				D13
2 Orifices	M5.4				C2
3 Flow Valve	M5.4				B2
4 Shuttle Valve					B2
5 Swing Motor			D6		D6
6 Swing Brake	M6.4 (Fig.16)	M1.2 (Fig.9)			F2

BILL OF MATERIAL	
Part No.	
Quantity	
Material	
Remarks	REFER TO SA. 1



TOP VIEW

END OF TUBE CHANNEL

BOOM 2 SECTION  
MAJOR ASSY.

1/28/52

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