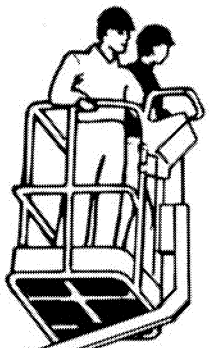
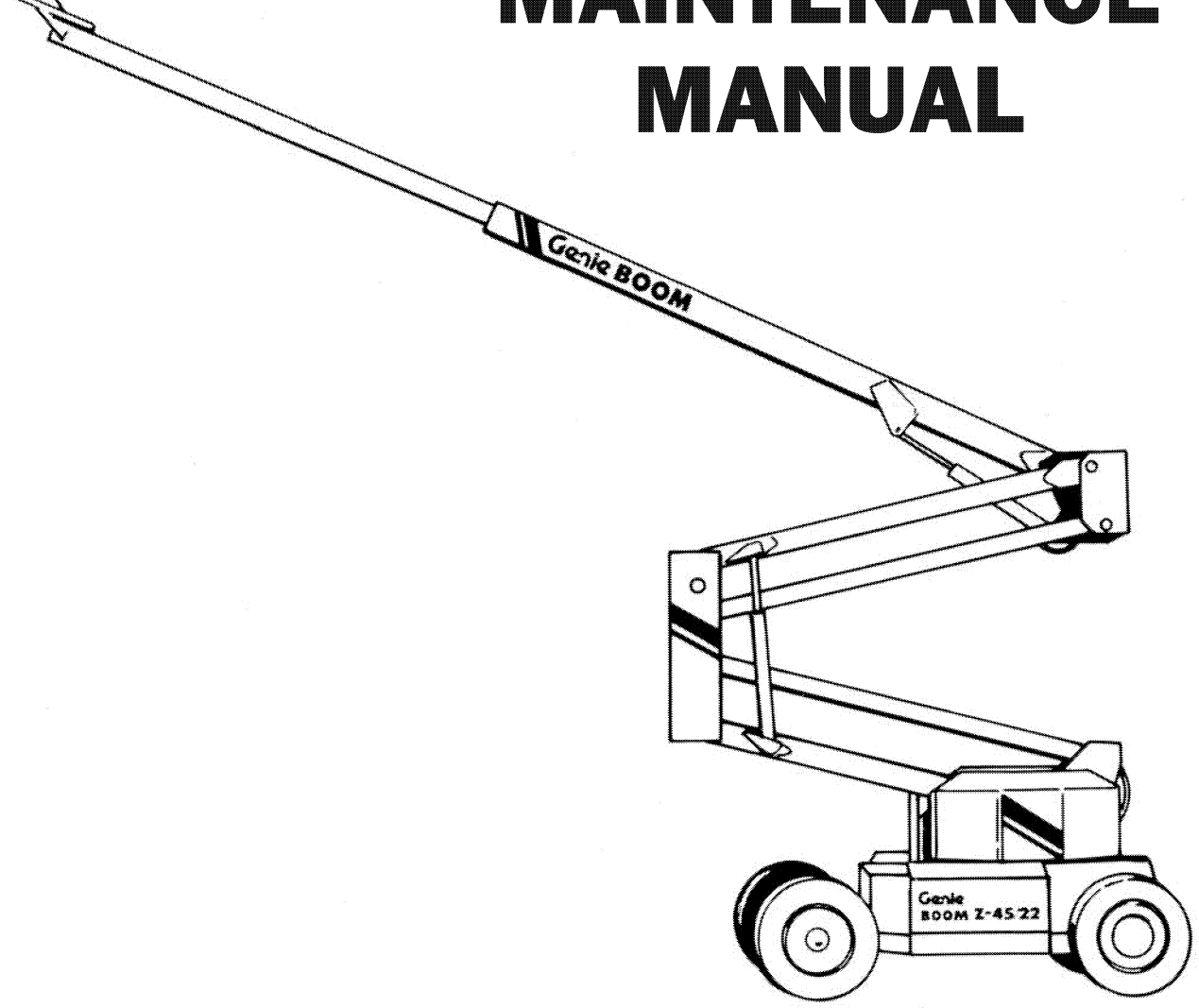
# Genie

# BOOM Z-45/22



# OPERATING AND MAINTENANCE MANUAL




Part No. 139543



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Check that the drive brakes hold when the machine is driven up a grade and stopped. Do not operate the machine if the brakes do not hold.

18. **Torque requirements** - The table below lists the standard torque values based on bolt diameters, grades and wet or dry conditions. The purpose of this table is to allow the user to take prompt, effective action in the event that an unacceptable condition is noticed during the inspection procedure.

**TORQUE REQUIREMENT TABLE**

| Size | | Bolt Diameter D (In.) | Tensile Stress Area (Sq.In.) | SAE Grade 5 Bolts | | | SAE Grade 8 Bolts | | | Recommended Torque Wrench Size (Production) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Clamp Load P(lb.) | Tightening Dry K = 0.20 Lb.In. | Torque Lub. K = 0.15 LB.In. | Clamp Load P (lb.) | Tightening Dry K = 0.20 Lb. In. | Torque Lub. K = 0.15 Lb. In. | In-Oz. | In-Lbs | Ft-Lbs |
| 4 | 40 | 0.1120 | 0.00604 | 380 | 8 | 6 | 540 | 12 | 9 | 160 | 10 | |
| | 48 | 0.1120 | 0.00661 | 420 | 9 | 7 | 600 | 13 | 10 | 160 | 10 | |
| 6 | 32 | 0.1380 | 0.00909 | 580 | 16 | 12 | 820 | 23 | 17 | | 25 | |
| | 40 | 0.1380 | 0.01015 | 610 | 18 | 13 | 920 | 25 | 19 | | 25 | |
| 8 | 32 | 0.1640 | 0.01400 | 900 | 30 | 22 | 1260 | 41 | 31 | | 25 | |
| | 36 | 0.1640 | 0.01474 | 940 | 31 | 23 | 1320 | 43 | 32 | | 25 | |
| 10 | 24 | 0.1900 | 0.01750 | 1120 | 43 | 32 | 1580 | 60 | 45 | | 50 | |
| | 32 | 0.1900 | 0.02000 | 1285 | 49 | 36 | 1800 | 68 | 51 | | 50 | |
| 1/4 | 20 | 0.2500 | 0.0318 | 2020 | 96 | 75 | 2860 | 144 | 108 | | 100 | |
| | 28 | 0.2500 | 0.0364 | 2320 | 120 | 86 | 3280 | 168 | 120 | | 200 | |
| | | | | | LB.FT. | LB.FT. | | LB.FT. | LB.FT. | | | |
| 5/16 | 18 | 0.3125 | 0.0524 | 3340 | 17 | 13 | 4720 | 25 | 18 | | 200 | |
| | 24 | 0.3125 | 0.0580 | 3700 | 19 | 14 | 5220 | 25 | 20 | | 200 | |
| 3/8 | 16 | 0.3750 | 0.0775 | 4940 | 30 | 23 | 7000 | 45 | 35 | | 300 | 25 |
| | 24 | 0.3750 | 0.0878 | 5600 | 35 | 25 | 7900 | 50 | 35 | | 300 | 50 |
| 7/16 | 14 | 0.4375 | 0.1063 | 6800 | 50 | 35 | 9550 | 70 | 55 | | 600 | 50 |
| | 20 | 0.4375 | 0.1187 | 7550 | 55 | 40 | 10700 | 80 | 60 | | 600 | 50 |
| 1/2 | 13 | 0.5000 | 0.1419 | 9050 | 75 | 55 | 12750 | 110 | 80 | | 1200 | 100 |
| | 20 | 0.5000 | 0.1599 | 10700 | 90 | 65 | 14400 | 120 | 90 | | 1200 | 100 |
| 9/16 | 12 | 0.5625 | 0.1820 | 11600 | 110 | 80 | 16400 | 150 | 110 | | 1200 | 100 |
| | 18 | 0.5625 | 0.2030 | 12950 | 120 | 90 | 18250 | 170 | 130 | | 1200 | 100 |
| 5/8 | 11 | 0.6250 | 0.2260 | 14400 | 150 | 110 | 20350 | 220 | 170 | | 1800 | 150 |
| | 18 | 0.6250 | 0.2560 | 16300 | 170 | 130 | 23000 | 240 | 180 | | 1800 | 150 |
| 3/4 | 10 | 0.7500 | 0.3340 | 21300 | 260 | 200 | 30100 | 380 | 280 | | 2400 | 200 |
| | 16 | 0.7500 | 0.3730 | 23800 | 300 | 220 | 33600 | 420 | 320 | | 2400 | 200 |
| 7/8 | 9 | 0.8750 | 0.4620 | 29400 | 430 | 320 | 41600 | 600 | 460 | | 3600 | 300 |
| | 14 | 0.8750 | 0.5090 | 32400 | 470 | 350 | 45800 | 660 | 500 | | 3600 | 300 |
| 1 | 8 | 1.0000 | 0.6060 | 38600 | 640 | 480 | 51500 | 900 | 680 | | 7200 | 600 |
| | 12 | 1.0000 | 0.6630 | 42200 | 700 | 530 | 59700 | 1000 | 740 | | 7200 | 600 |
| 1 1/8 | 7 | 1.1250 | 0.7630 | 42300 | 800 | 600 | 68700 | 1280 | 960 | | 7200 | 600 |
| | 12 | 1.1250 | 0.8560 | 47500 | 880 | 660 | 77000 | 1440 | 1080 | | 7200 | 600 |
| 1 1/4 | 7 | 1.2500 | 0.9690 | 53800 | 1120 | 840 | 87200 | 1820 | 1360 | | | Mult* |
| | 12 | 1.2500 | 1.0730 | 59600 | 1240 | 920 | 96600 | 2000 | 1500 | | | Mult* |
| 1 3/8 | 6 | 1.3750 | 1.1550 | 64100 | 1460 | 1100 | 104000 | 2380 | 1780 | | | |
| | 12 | 1.3750 | 1.3150 | 73000 | 1680 | 1260 | 118100 | 2720 | 2040 | | | |
| 1 1/2 | 6 | 1.5000 | 1.4050 | 78000 | 1940 | 1460 | 126500 | 3160 | 2360 | | | Mult* |
| | 12 | 1.5000 | 1.5800 | 87700 | 2200 | 1640 | 142200 | 3560 | 2660 | | | Mult* |

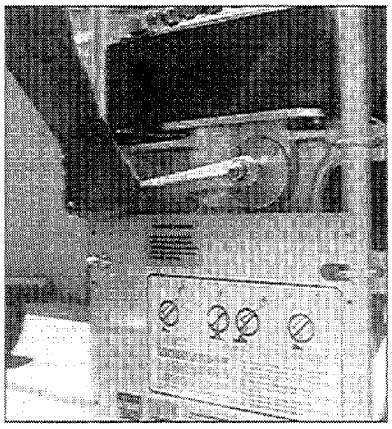
NOTE: Tensile strength for bolt size 4 to 1 - 120,000 (min, psi), size 1 1/8 to 1 1/2 (min. psi).



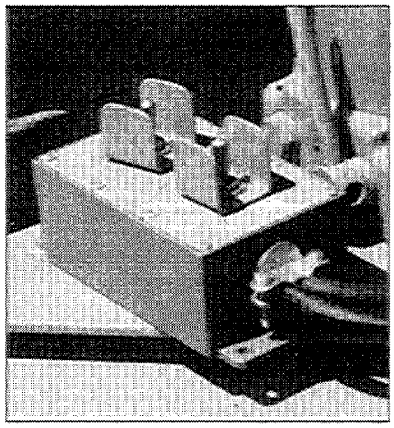

* Torque multiplier.
Torque specifications are usually given in foot-pounds ... lower ranges in inch-pounds or inch-ounces.



8 — Foot switch

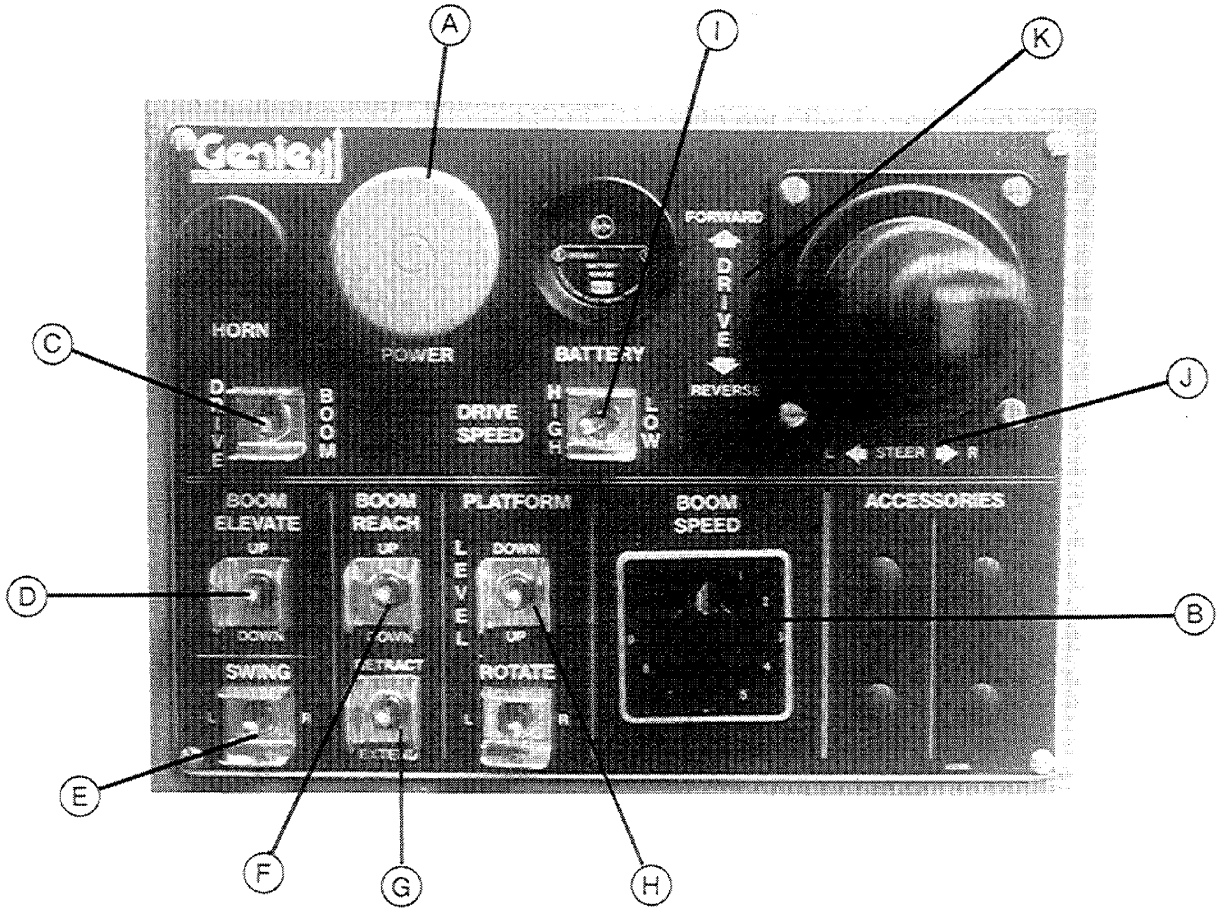


11 — Platform rotation



12 — Auxiliary controls

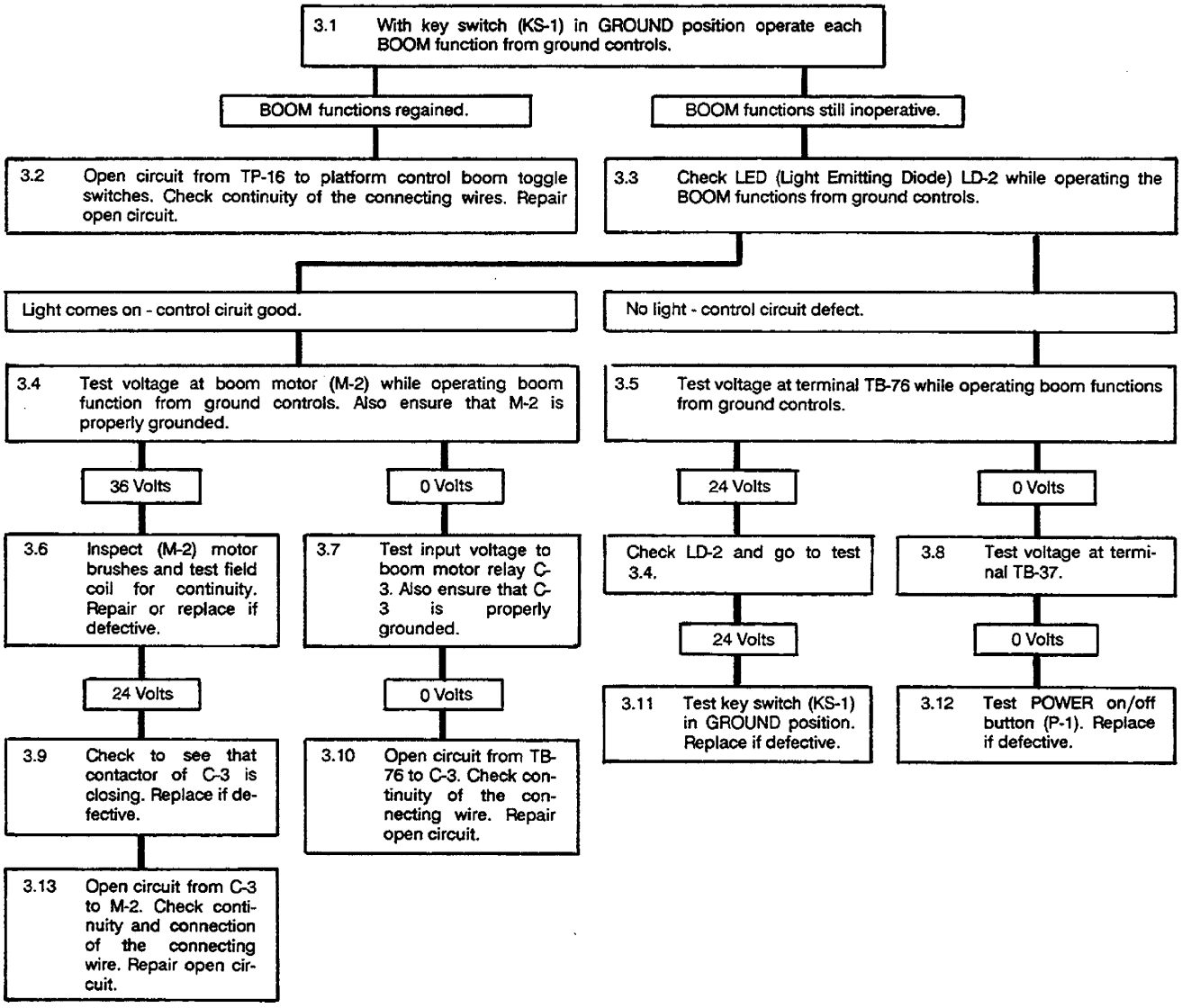
10 — Platform Control Panel (DC Model Shown) GP model includes engine start and choke.



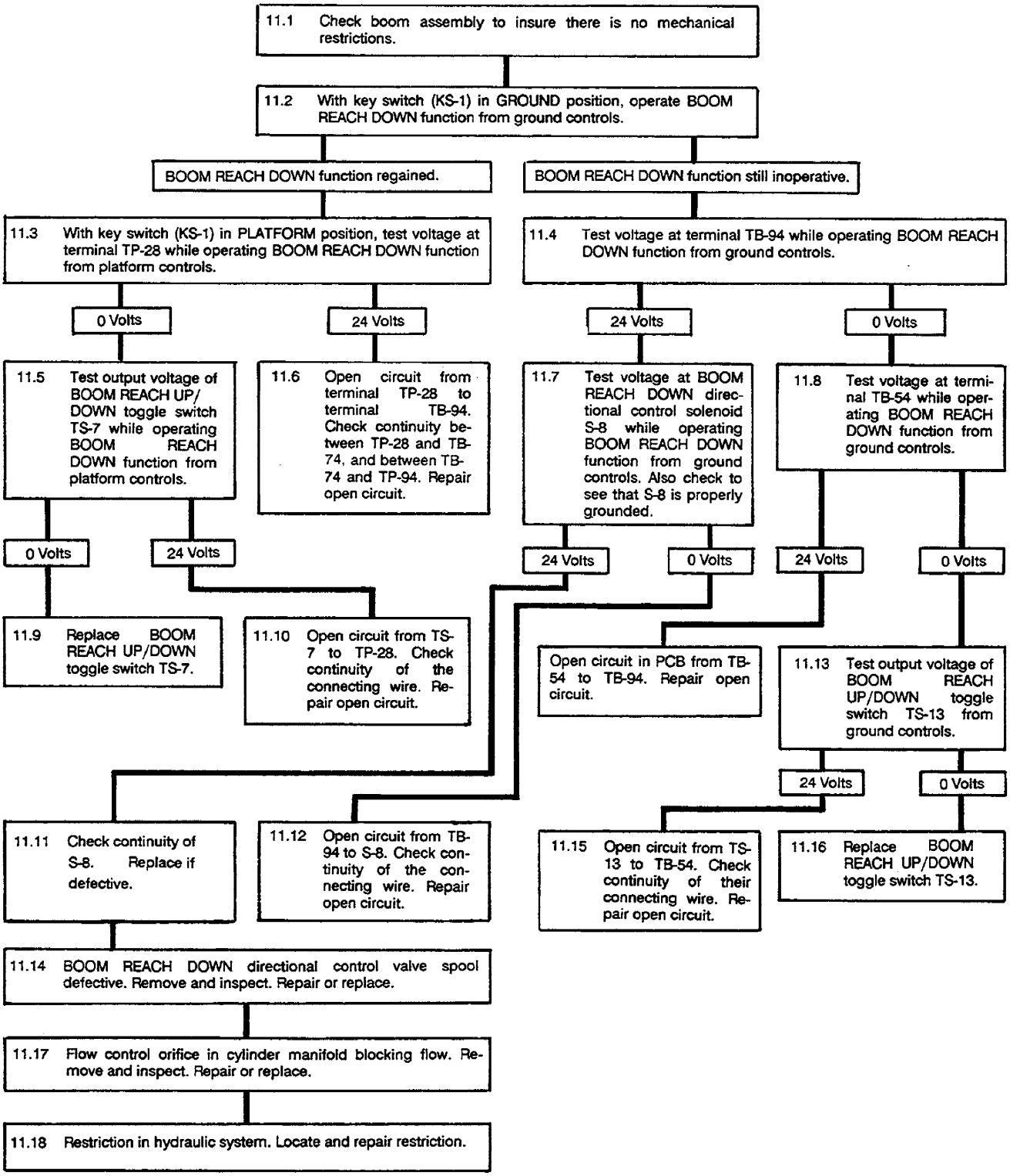
**The DRIVE Functions:**

The DRIVE functions (DRIVE Forward/Reverse and STEER Left/Right) are operated from the platform control station. The direction and speed of the DRIVE Forward/Reverse functions are accomplished by actuating the drive proportional control joystick in either the Forward or Reverse position. When actuated the joystick completes a circuit to the 24 volt drive motor relay, to the 24 volt forward or reverse directional control valve solenoid and to the drive proportional control valve solenoid. The STEER Left/Right functions are accomplished by actuating the rocker switch (located on the end of the drive proportional control joystick) to the Right or Left position. When actuated the rocker switch completes a circuit to the 24 volt drive motor start relay and to the 24 volt steer right or left directional control valve solenoid. When supplied with 24 volts the drive motor start relay energizes a set of 36 volt contacts which, when closed, complete a circuit supplying 36 volts to the drive hydraulic power unit motor. When energized the 24 volt directional control valve solenoid actuates its related valve spool. The speed of the DRIVE Forward/Reverse functions is controlled by the variable voltage supplied to the drive proportional control valve from the drive proportional control joystick. Whenever the above-mentioned actions are accomplished, the appropriate drive function will operate.

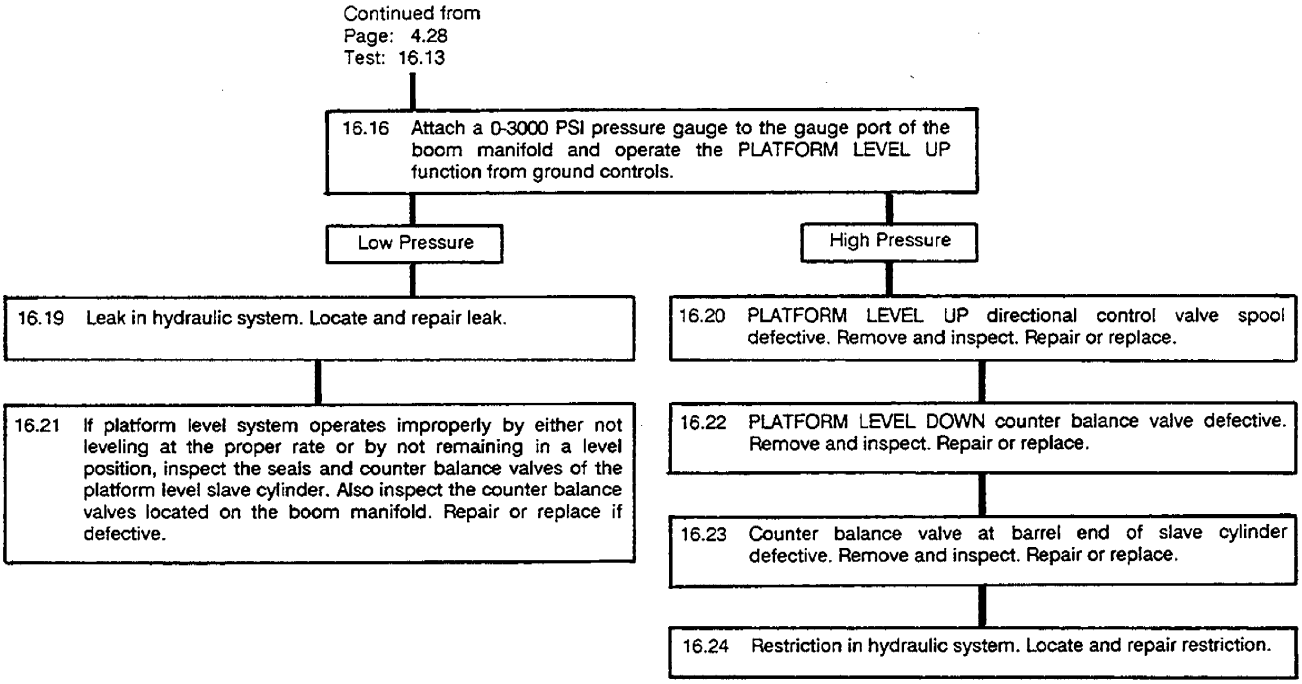
## 3. Machine will not lift, lower, extend, retract, or swing. Drive and steer functions operational. Boom motor will not start.



## 11. Boom Reach Down function inoperative.

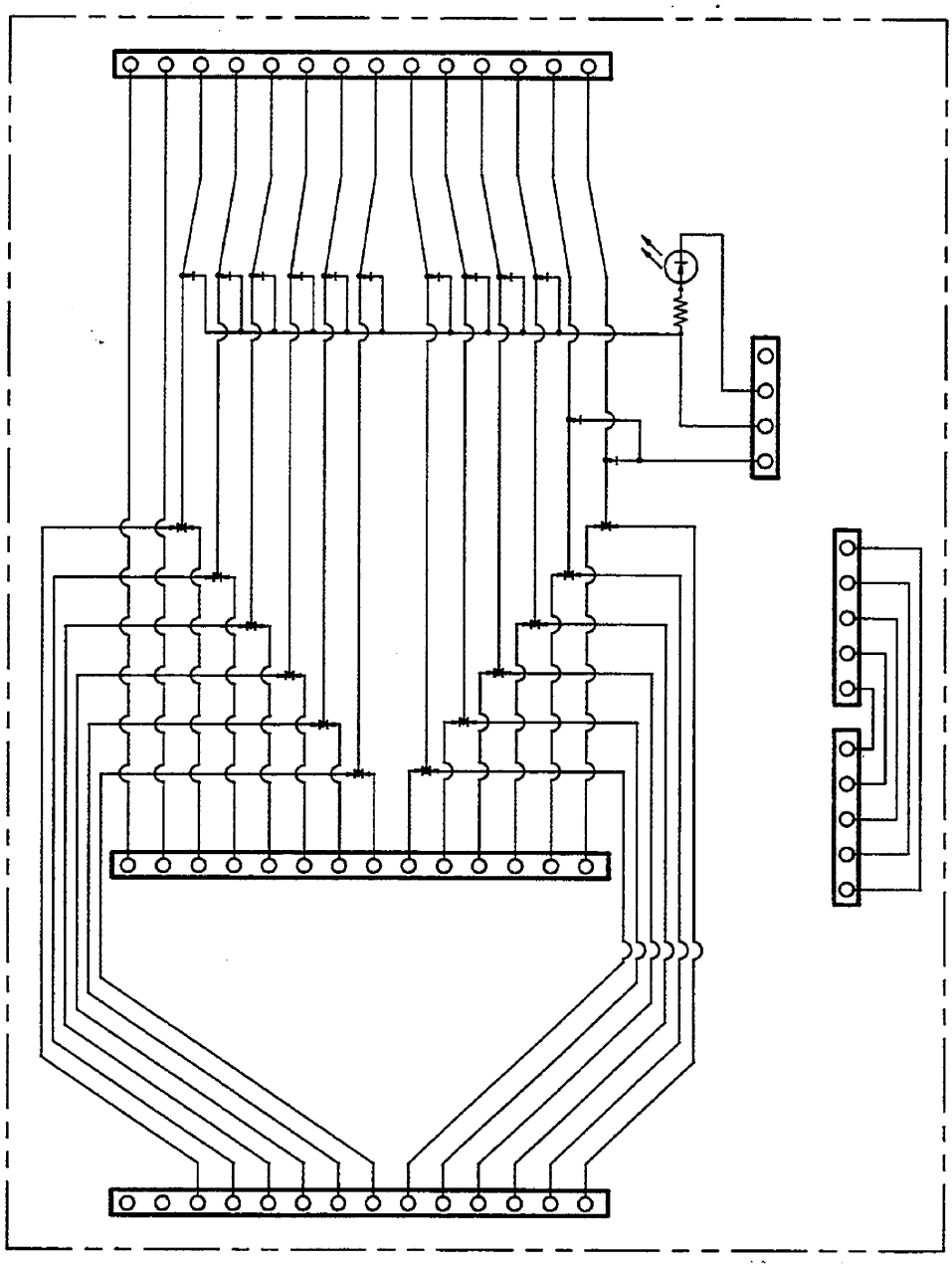


## 16. Platform Level Up function inoperative.



# SCHEMATICS

## 5. Boom Functions Circuit Board Diagram



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