



Service Manual

GE SX Controls

PROGRAMMING

Function 49 - Mode 1 Regen Current Limit (Push CONT 2)

This function allows for the adjustment of the maximum current seen by the motor during regenerative braking; the higher the current, the shorter the stopping distance.

Volts	Min	Max	Set	Resolution Per unit value	Example If set at 220
36/48	182A	591A	0 to 255	1.625	344 amps

REGEN BRAKE $I_A = (\text{VAL} \times 1.625) + 182$ at 36/48 volts

This REGEN CURRENT LIMIT takes effect when the Mode 1 settings are called for by the Dash Display.

Function 50 - Mode 1 Auto Regen Current Limit (Push CONT 3)

This function allows for the adjustment of the braking torque applied when the start or directional switch is opened, and the counter EMF is above the setting of Function 5. A higher current correlates to a shorter stopping distance.

$$\text{Current} = (\text{Value of Setting} / 4) \times 6.5$$

Note, if the result is less than 52 amps, the control will default to 52 amps.

This AUTO REGEN CURRENT LIMIT takes effect when the Mode 1 settings are called for by the Dash Display.

Function 51 - Mode 1 Speed Limit (Push CONT 4)

This function allows for the adjustment of the motor speed limit (maximum battery volts to the motor).

Range	100% to 0% battery volts
Set	46 to 180
Resolution	0.75% per set unit
Example:	Setting of 80 = 75% of battery volts

$$\text{SPEED LIMIT} = 100\% - ((\text{VAL}-46) \times 0.75\%)$$

This speed limit takes effect when the Mode 1 settings are called for by the interactive Dash Display.

Function 52 - Mode 2 Armature Controlled Acceleration (Push CONT 5)

Same as Function 48.

This C/A takes effect when the Mode 2 settings are called for by the Dash Display.

Function 53 - Mode 2 Regen Current Limit (Push CONT 6)

Same as Function 49.

This REGEN CURRENT LIMIT takes effect when the Mode 2 settings are called for by the Dash Display.

Function 54 - Mode 2 Auto Regen Current Limit (Push CONT 7)

Same as Function 50.

This AUTO REGEN CURRENT LIMIT takes effect when the Mode 2 settings are called for by the Dash Display.

Function 55 - Mode 2 Speed Limit (Push CONT 8)

Same as Function 51.

This SPEED LIMIT 2 takes effect when the Mode 2 settings are called for by the Dash Display.

Function 56 - Mode 3 Armature Controlled Acceleration (Push CONT 9)

Same as Function 48.

This C/A takes effect when the Mode 3 settings are called for by the Dash Display.

Table One - Failures That Cause Reduced or No Motor Torque (Continued)

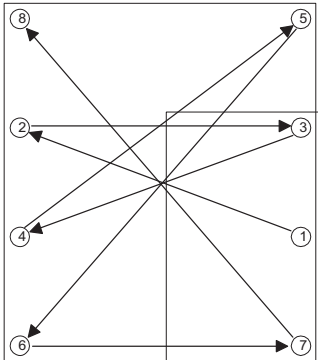
NOTE

Conduct all testing with drive wheels raised off the floor.

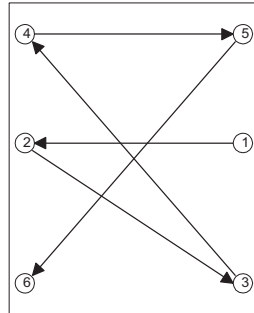
Symptom	Probable Cause
1c. Line contact closes, truck doesn't move.	• Check power fuse at positive on control. Should be battery volts. If not, check power fuse by volt drop check across fuse. • Check for over temperature condition on traction motor or traction control. • Check voltage at A1 and A2, should be battery volts. If not, check motor cables and volts at A1 and A2 to locate open circuit. Check motor brushes for sticking. • Check F1 to F2 for open field circuit (loose connections). • Check for voltage on F1 and F2, it should increase and decrease by pressing accelerator and releasing. • Check voltage at P1-7. Should be 0.5 volts with accelerator at creep speed, increasing to 3.5 volts or more as the accelerator is pressed down to top speed. If P1-7 remains at about 0.5 or less volts, check start switch and accelerator potentiometer. • Check circuit from accelerator start switch and potentiometer to traction control for open wires. • Check motor A1 to A2 for open circuit in motor armature. • Check motor F1 to F2 for open circuit in motor fields. • Check for direction switch inputs to control at P1-5 and P1-6 for forward and reverse. If voltage not present, check circuit to accelerator. Positive at P7-A and check for circuit through switch at P7-B and P7-C. • Replace the SX Traction control.

CHECKS AND REPAIRS

Traction



Hydraulic



Proper sequence for use in tightening hardware during control mounting

Maintenance

If it is necessary to remove the control, careful consideration must be given to removing the old thermal compound from the control and mounting surface, prior to replacement of the unit. Never re-use thermal compound. Use a putty knife or similar straight edge to carefully remove all thermal compound residue without damaging either mounting surface. Flush the surfaces with a liquid de-greaser or parts cleaner and allow them to dry, before re-applying the thermal compound and mounting the control. Take care not to contaminate the surfaces with hydraulic fluid or battery acid.

If the copper heat conducting pad between the control and the truck shows signs of corrosion that cannot be cleaned, then the copper pad must be replaced. otherwise, carefully remove the old thermal compound and reapply it before installing the new control.

Full Version Available

Mitsubishi FBC45N Forklift Service Manual (WENB8473-02)

Mitsubishi FBC45N forklift service manual, covers drive unit, hydraulics, mast, and wiring diagnostics. Instant PDF download.

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