

105P55 Starter Installation Instructions

This instruction sheet details the removal and replacement of the Mitsubishi Electric 105P55 starter. For starters equipped with an Integrated Magnetic Switch (IMS), installation procedures and torque values are identical regardless of IMS location.



Be sure to follow proper safety techniques as outlined by your shop or employer. This includes wearing safety glasses and gloves at all times, and disconnecting the vehicle's batteries during any repair of the starting system.

The components listed below may continue to have power supplied to them even when the ignition switch is off. Use extreme caution at all times.

Disconnect the vehicle's batteries before any service to the starting system.

If a spacer was used between the old starter and flywheel housing, ensure it is installed with the new starter. Failure to do so may result in pinion meshing problems and subsequent damage.

Clean all grommets with a wire brush prior to reinstallation to ensure low resistance connections.

If dielectric grease or other corrosion-inhibiting product is applied to terminals, apply AFTER tightening terminals to proper torque. This procedure ensures low resistance connections.

If replacing a starter with an IMS, the replacement starter should have an IMS. Always connect the control lead to the IMS terminal if so equipped. Failure to do so may result in undesired performance.

Step 1 – Starter Removal

- 1) **Disconnect vehicle's batteries**
- 2) Remove cables connected to starter's ground and B-terminal and note cable locations for reinstallation
- 3) Remove the cable connected to the IMS-terminal or Sw-terminal
- 4) Remove three mounting bolts connecting starter to engine

Step 2 – Ring Gear Wear Check

- 1) Check the engine's ring gear for wear before installing a new starter. If wear is excessive, the ring gear should be replaced.

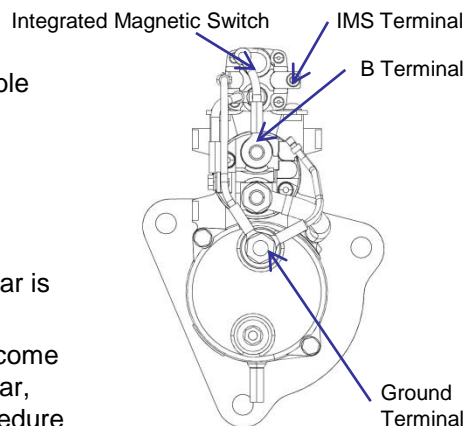
Due to six cylinder diesel engine design characteristics, the ring gear will come to rest in one of three positions. Check all three ring gear positions for wear, commonly called "barring over" the engine. Ring gear wear checking procedure is available at: www.heavyduty.meaa-mea.com

Step 3 – Starter Motor Reinstallation

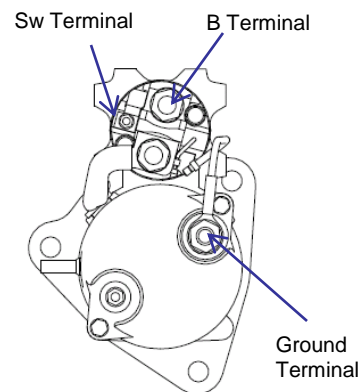
- 1) Install new starter by reversing steps used for removal
 - Properly torque mounting bolts
 - Connect battery cable to starter's B Terminal
 - Connect ground cable to starter's Ground Terminal
 - See page 2 for ground cable installation details
 - Control circuit lead to starter's Sw or IMS terminal
 - **Always connect to the IMS terminal if starter is so equipped**
- 2) Protect starter motor's pinion from impacts during installation
 - Roughness on pinion surfaces can lead to ring gear engagement errors

Step 4 – Final Visual Check:

- 1) Visually inspect starting system's electrical connections
- 2) There should be no gaps between the starter flange and the flywheel housing
- 3) Improper mounting can lead to:
 - Damaged pinion and ring gear
 - Engagement errors
 - Stuck pinion
 - Premature starter failure



Terminal Locations –
Starter Equipped with IMS

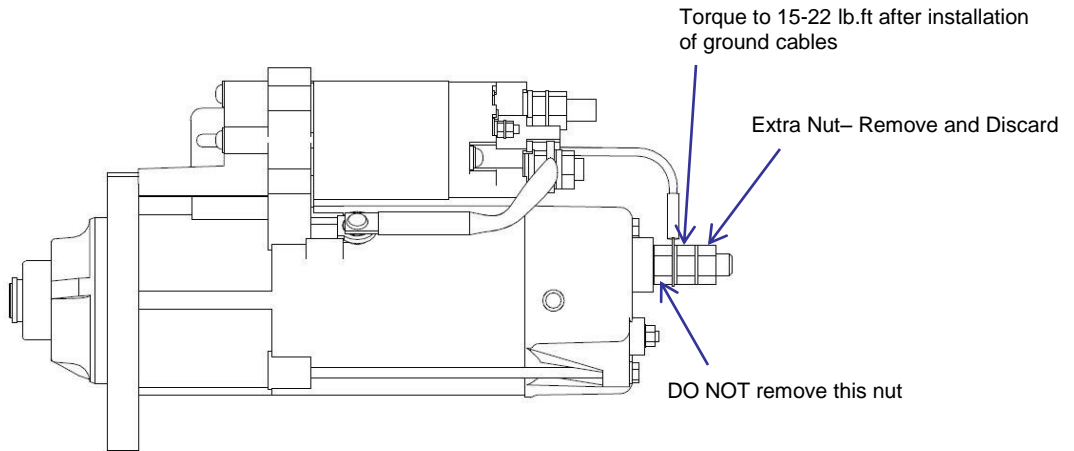


Terminal Locations –
Starter Without IMS

Starter Torque Specifications		<u>B</u>	<u>Ground</u>	<u>IMS</u>	<u>SW</u>	<u>Mounting Bolts</u>		
105P55: All Models	lb.ft	15-22	15-22	2.2-3.7	1.5-1.8	22-44	33-66	74-147
	lb.in	180-264	180-264	26-44	18-22			
	N.m	20-30	20-30	3-5	2.0-2.5	30-60	45-90	100-200
	Size	M12	M12	M5	M5	11 mm (SAE 1)	13.5 mm (SAE 3)	17 mm (SAE 3)

Ground Cable Installation Detail

Mitsubishi Electric starters are shipped with an extra nut to protect the ground terminal's threads during shipping. This extra nut can be discarded after removal from the starter's ground terminal.



www.specmystarter.com