

# Mitsubishi Electric Starter

## Model: 105P

- Warranty return rate of less than 1% over 3 years.
- Highest efficiency 12V starter in the industry. (Table 1)
  - Higher output with a lower amperage draw off the batteries.
  - Lower weight to available torque than competition.
- Better cold cranking performance. (Table 2)
- Lower Current draw than the competition. (Table 3)
- Higher available torque than the competition. (Table 4)
- Eliminates need for Over Crank Protection
  - With lower amperage draw, there is less heat generated during cranking.
- Lower rate of miss-engagement than the competition. (0.1% vs industry standard at 0.5%)



**Table 1: Higher efficiency means the starter will require less current to start the engine.**

Starter	Efficiency (Higher the better)	Current / Torque (A / Nm) (Lower the better)	Current / Output (A / kW) (Lower the better)
MELCO (Average)	56.97%	18.70	224.85
Remy 39MT+ (Average)	48.79%	24.69	253.56

**Table 2: At a set temperature, the Mitsubishi starter cranks faster than the Remy starter.**

Starter crank test on a 15L engine.	Test Condition	Engine Speed (RPM) (Higher the better)
MELCO (Average)	-15°C (+5°F)	80
Remy 39MT+ (Average)	-15°C (+5°F)	74
MELCO (Average)	-20°C (-4°F)	57
Remy 39MT+ (Average)	-20°C (-4°F)	37

**Table 3: Mitsubishi draws less current for a set torque load. Remy starters could not achieve 80Nm.**

Current Draw with Set Engine Torque Current is displayed in Amps (Lower the better)			
Sim. Engine Torque:	40 Nm	60 Nm	80 Nm
MELCO (Average)	824.6	1097.2	1354.4
Remy 39MT+ (Average)	976.8	1294.7	Unable to reach



**IF IT FAILS, WE'LL REPLACE IT. GUARANTEED!\***

\*For more information visit: [diamond-gard.com](http://diamond-gard.com)  
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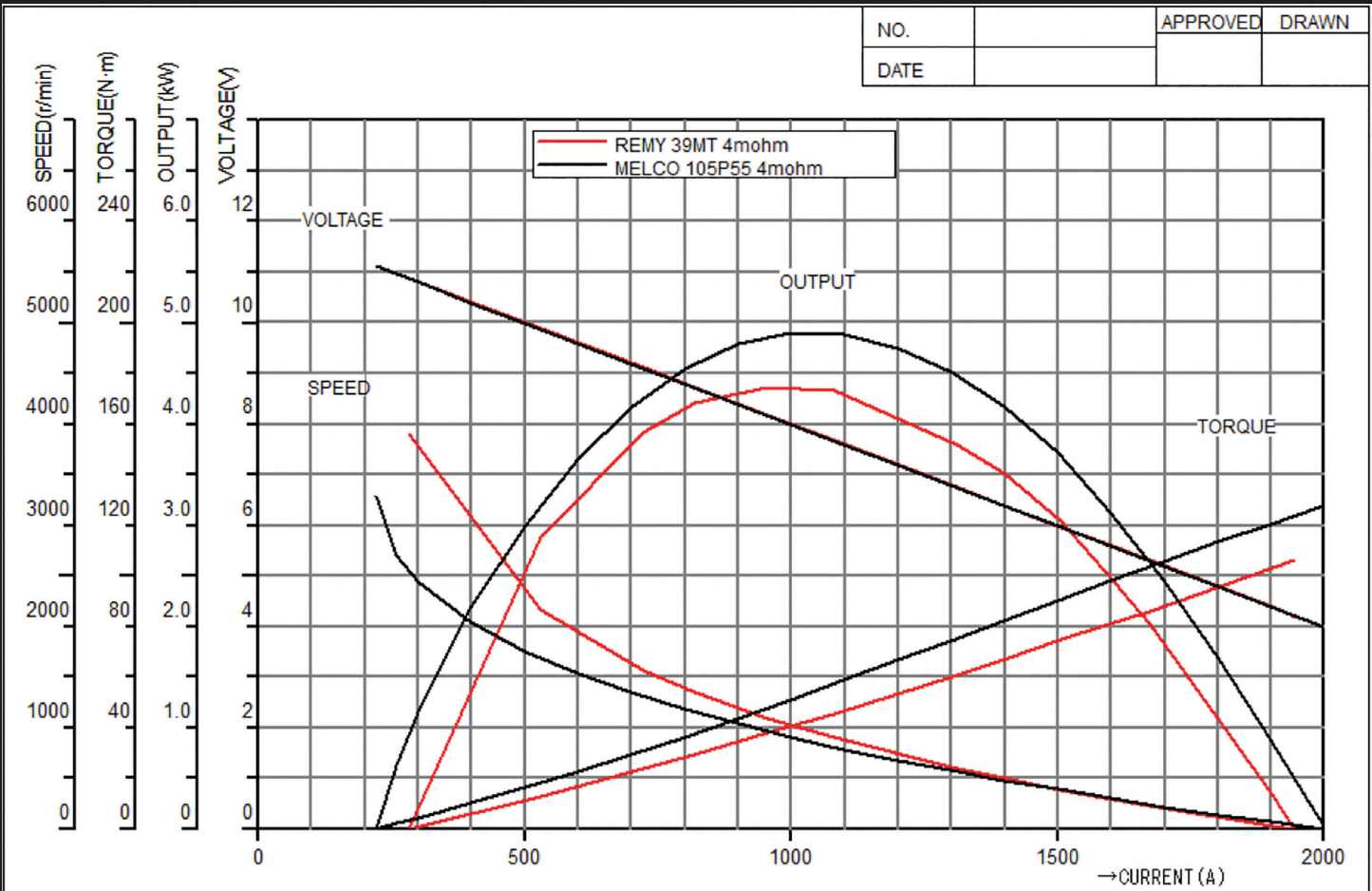
**Table 4: Power (kW) = Torque (Nm) x Speed (RPM) / 9.5488**

The more torque that is available from the starter, the easier it is to crank the engine.

	Peak Output(kW)	Torque (Nm) @ Peak Output	Current Draw (A) @ Peak Output
<b>MELCO (Average)</b>	4.61	55.35	1035.2
<b>Remy 39MT+ (Average)</b>	3.80	38.93	959.6

**Figure 1: Performance curve using 4mOhm resistance.**

Using an engine's cranking torque requirements, we can determine that the Mitsubishi Starter will crank the engine faster with a lower current draw than Remy.



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