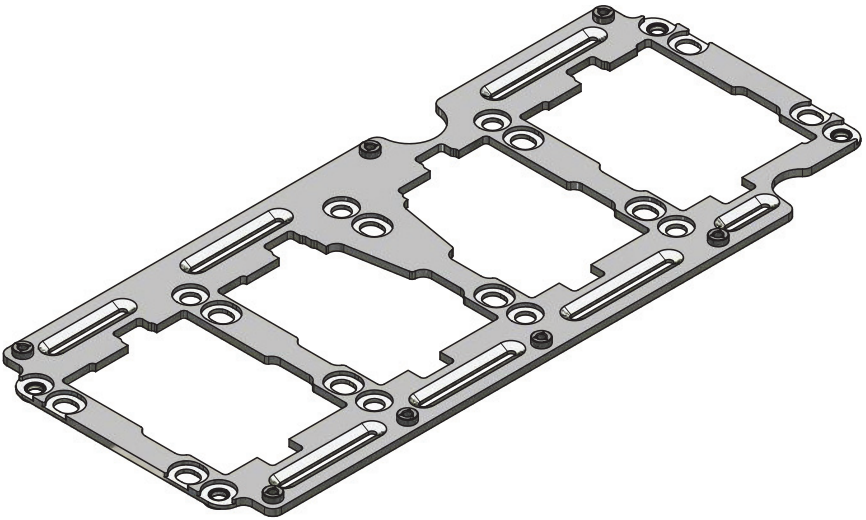


IMPROVED 
R A C I N G TM

**CRANK SCRAPER FOR 1997-2004
(C5) CHEVROLET CORVETTE**

3.622" STROKE & 4.000" STROKE ENGINES

MADE IN USA



Important: Read these instructions in their
entirety prior to installation

For contact information, visit www.improvedracing.com
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APPLICATIONS

- 1997-2004 Chevrolet Corvette
- Vehicles equipped with the 1997-2004 Chevrolet Corvette (C5) Bat-Wing Oil Pan:
 - GM Part Number: [12561828](#)

GENERAL PARTS LIST

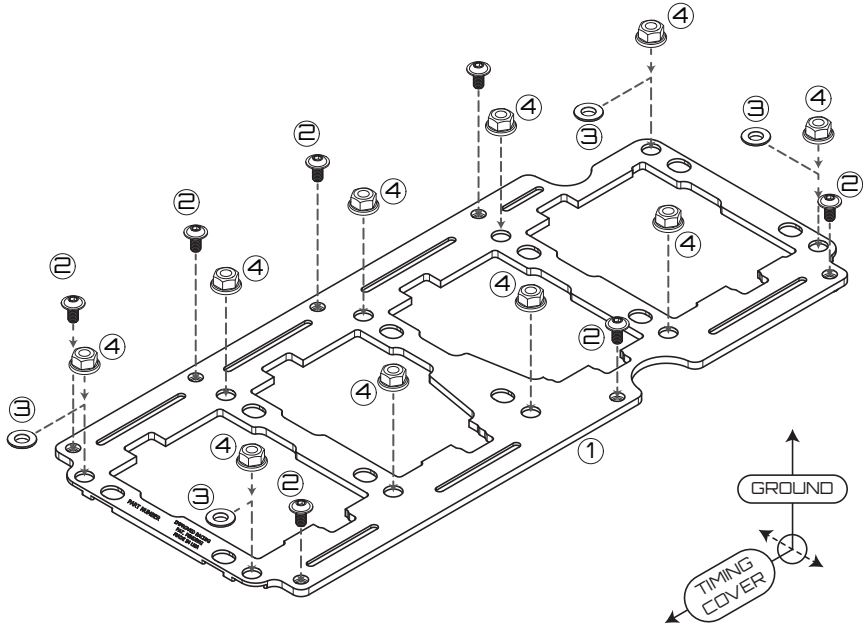




Figure 1 - EGM-3XX Schematic

Item	Qty	Part Number	Description
1	1	EGM-3XX	Crankshaft Scraper (Part Number Engraved on Scraper)
2	7	HSC-1037	M6x1.00x12 Scraper Insert Screws
3	4	HSP-1009	M10 ARP Stud to M8 Factory Stud Reducer
4	10	HNT-1018	M8x1.25 Crank Scraper Locknuts

TECHNICAL SPECIFICATIONS

Maximum Operating Temperature	350°F (177°C)
Minimum Operating Temperature	-100°F (-73°C)
Maximum Operating Pressure	300 psi (20.68 bar)
Maximum Scraper Clearance	ALL SCRAPING SECTIONS: 0.060 inches (1.52 mm)
Ideal Scraper Clearance	ALL SCRAPING SECTIONS: 0.040 inches (1.02 mm)
Minimum Scraper Clearance	ALL SCRAPING SECTIONS: 0.020 inches (0.51 mm)
EGM-3XX Info	CNC-Machined 6061-T6 Billet Aluminum
HSC-1037 Info	M6x1.00x12 ISO 7380 Low-Profile Button Head Screw, 304 Stainless Steel, 6g Thread Fit, 4 mm Drive
HSP-1009 Info	CNC-Machined 6061-T6 Billet Aluminum
HNT-1018 Info	IFI-100/107 M8x1.25 Class 10 Top Locknut, C10B21 Alloy Steel, CR3+ Zinc Plated, 6H Thread Fit, 13 mm Wrench Flats

WARNINGS & PRECAUTIONARY STATEMENTS

-  **WARNING: NEVER work under a vehicle supported only by a jack.**
-  **WARNING:** This product should only be installed by a qualified mechanic. Improper installation could result in severe engine damage.

REMOVING THE FACTORY PARTS

1. Clean the crankshaft scraper and windage tray thoroughly using a mild detergent and warm water.
2. Dry both parts with compressed air and / or a lint-free towel.
3. Raise and support the vehicle at the recommended lift points using a lift, jack stands or wheel ramps.
4. Remove any fascia panels required to access the vehicle's oil filter and oil pan.

5. Drain the oil pan by following GM's approved method for your vehicle, found in the service manual.

⚠ Caution: Oil may be hot!

6. Place a drain pan underneath the oil filter and remove the filter.
7. Remove the oil pan from the vehicle by following GM's approved method for your vehicle, found in the service manual.
8. Remove the factory oil pickup tube (screen) from the oil pump and main stud by using a 10 mm and 13 mm tool, shown in Figure 2. Set the pickup tube (screen) aside until reinstallation.

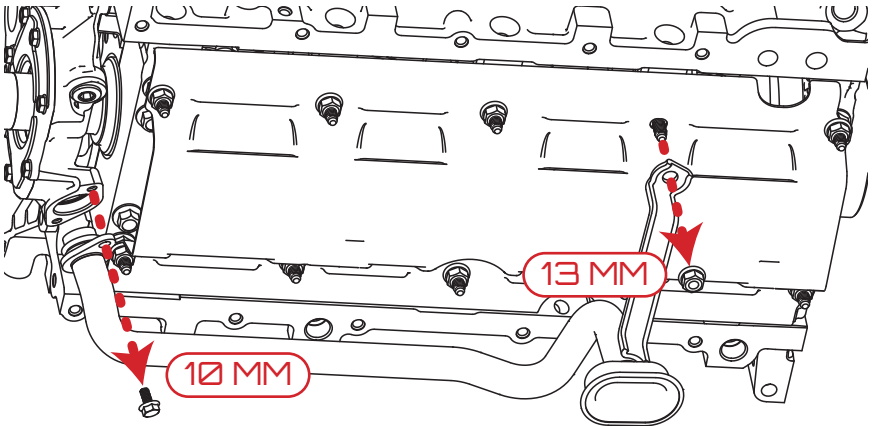


Figure 2 - Removing the Factory Oil Pickup Tube (Screen)

9. Use a 13 mm tool to completely remove the windage tray as shown in Figure 3.

💡 Tip: The factory windage tray will not be used again.

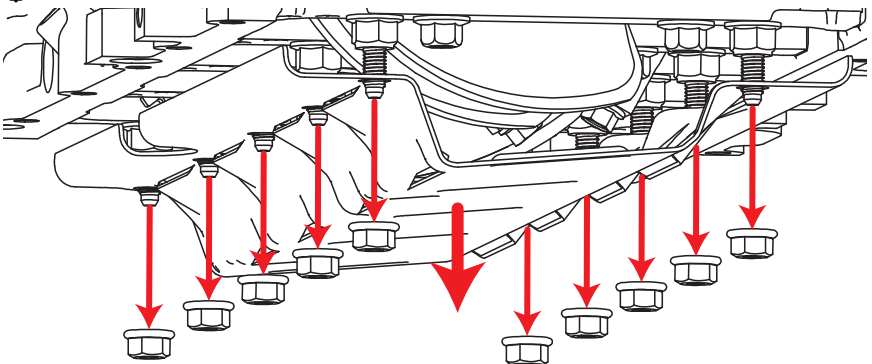


Figure 3 - Removing the Factory Windage Tray

INSTALLING THE IMPROVED RACING KIT

1. If installing an ARP stud kit, follow the instructions provided with the kit before proceeding with the crank scraper installation.
2. If using the factory main cap hardware, insert the four HSP-1009 reducer bushings, as shown in Figure 4, while securing the scraper to the engine.

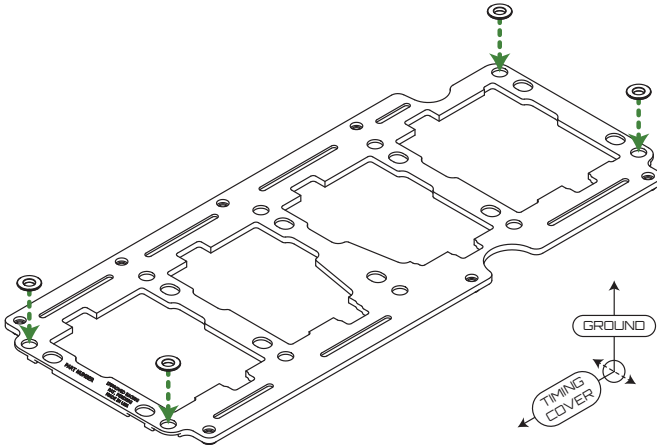


Figure 4 - Inserting the Reducer Bushings for Factory Main Studs

3. Use Figure 5 to ensure the scraper is oriented correctly, then loosely secure the scraper to the main caps.
 - a. Use a 13 mm tool for the provided HNT-1018 nuts.
 - b. Use a 14 mm tool for the ARP flange nuts provided in the stud kit.



Note: Leave the pickup tube (screen) nut detached.

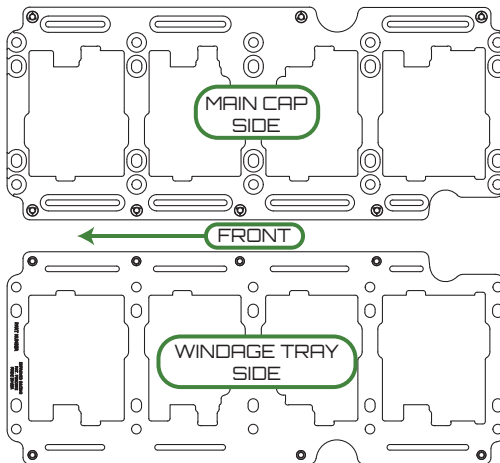


Figure 5 - Correct Crank Scraper Orientation

- Using a $\frac{1}{2}$ inch-drive breaker bar or ratchet with a 24 mm ($\frac{15}{16}$ inch) socket, manually turn the engine in the clockwise direction while carefully inspecting clearance / interference. This is shown in Figure 6.

Tip: To make this step easier, place the transmission into neutral and loosen the spark plugs to relieve combustion chamber pressure.

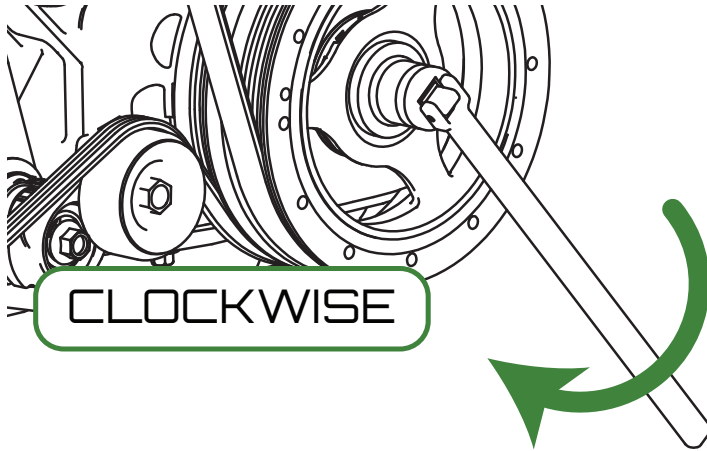


Figure 6 - Rotating the Engine Crankshaft with a Breaker Bar

- Use a feeler gauge set, shown in Figure 7, to carefully measure the gap between the scraper and the rotating assembly in-as-many positions as possible. Please be thorough!

⚠️ Ensure the gap is AT LEAST 0.020" in every location.

⚠️ If interference is detected, loosen the scraper and adjust the fit until all clearances are AT LEAST 0.020".

💡 Tip: In rare instances, the scraper will require minimal filing to achieve the required clearances. Unsure? Contact [Customer Service](#).

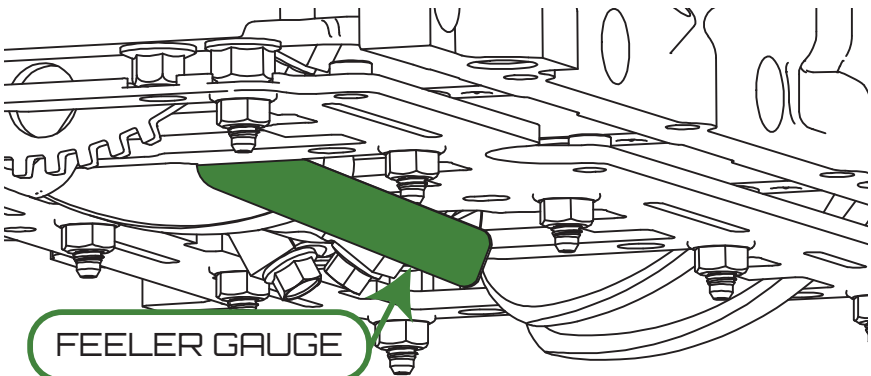



Figure 7 - Inspecting Clearance with a Feeler Gauge

6. Torque the crank scraper nuts (HNT-1018 or ARP) to 18 lb-ft (24 N·m).
-  **Tip:** Do not install the nut that secures the oil pickup tube (screen) yet.
7. Use a 4 mm hex tool to install all seven HSC-1037 screws into the threaded inserts on the crank scraper. Torque all screws to 5 lb-ft (6 N·m).

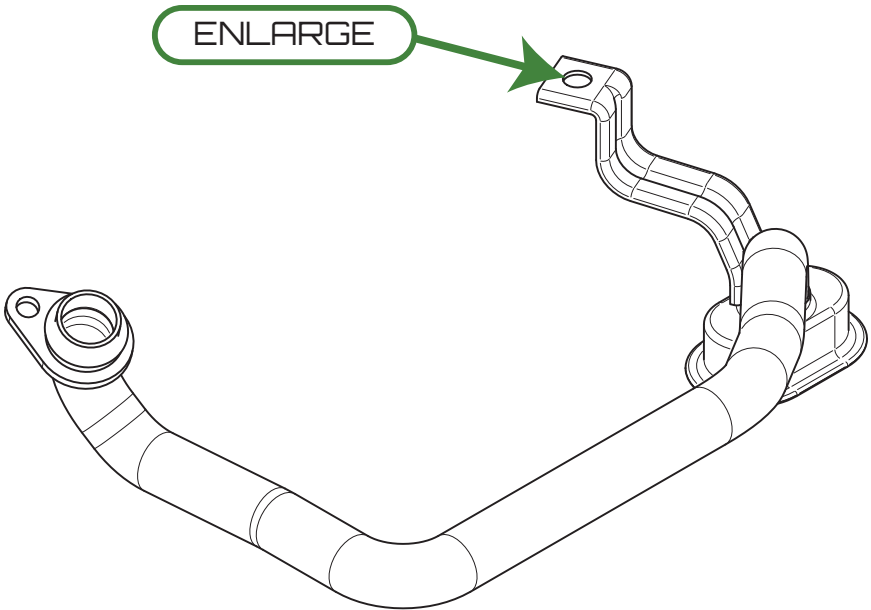




Figure 8 - Hole to Enlarge on the Pickup Tube (Screen)

8. If using ARP main studs, enlarge the pickup tube (screen) mounting hole with a $\frac{7}{16}$ inch (11 mm) drill bit. The hole is shown in Figure 8.
9. Re-install the oil pickup tube (screen).
-  **Tip:** Replace the oil pickup tube (screen) O-ring with a new O-ring. This is recommended for higher mileage engines.
10. Use a 10 mm tool to torque the pickup tube flange screw on the engine oil pump to 8 lb-ft (10 N·m).
11. Use a 13 mm tool to torque the remaining oil pickup tube nut(s) to 18 lb-ft (24 N·m).
12. Perform a final inspection of the crank scraper. Rotate the engine manually using the breaker bar and check for interference again. Return to Step 5 and readjust when necessary.
13. Retighten the spark plugs.
14. Reinstall the vehicle's oil pan by following GM's approved method for your vehicle, found in the factory service manual.

 **Ensure that the crank scraper DOES NOT interfere with the oil pan.**

 **Tip:** Replace the oil pan gasket with a new gasket. This is recommended for higher mileage engines.

15. Pre-fill and reinstall a new engine oil filter after lubricating the seal with engine oil.
16. Refill the engine oil to the factory specifications.

Congratulations! The installation of your crank scraper is complete. Enjoy the additional horsepower and oil control!