



# INSTALLATION INSTRUCTIONS

13124, 13131, 13132, 13149

Gear Reduction Starters for Ford engines

**IMPORTANT! POSITIVE BATTERY CABLE MUST BE DISCONNECTED AT BATTERY PRIOR TO INSTALLATION! THIS IS A PERFORMANCE MODIFICATION, NOT JUST A REPLACEMENT STARTER.**

**ALL INSTRUCTIONS & PROCEDURES MUST BE FOLLOWED FOR A SUCCESSFUL INSTALLATION.**

**CAUTION: NEVER OPERATE STARTER MOTOR MORE THAN 30 SECONDS AT A TIME WITHOUT ALLOWING IT TO COOL FOR AT LEAST TWO MINUTES.** Overheating caused by extended cranking will damage the starter motor and void warranty.

## Determine the correct starter

It can be difficult to determine which starter you need for your Ford 289, 302, 351W and 351 C engine. Engine block plates with a 4.084" starter hole diameter use a Tuff Stuff 13124 starter that can be used with a 157 or 164 tooth ring gear with an automatic or manual transmission. Engine block plates with a 4.130" starter hole diameter use a Tuff Stuff 13132 starter and can only be used with a 164 tooth ring gear and manual transmission. See page two for additional information.

13132



289, 302, 351W & 351C  
164 Tooth Ring Gear with  
Manual Transmission

13124



289, 302, 351W & 351C  
164 Tooth Ring Gear with  
Auto Trans or 157 Tooth Ring  
Gear with Auto or Manual  
Transmission

13131



255, 352, 390, 427 & 428 FE  
3-Bolt Mounting with Automatic  
or Manual Transmission

13149



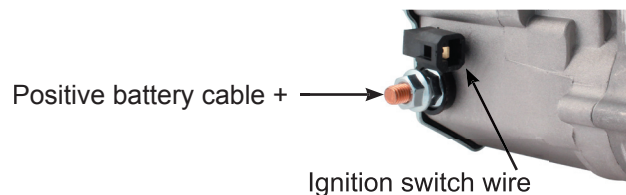
351, 400, 429, 460  
One Threaded Hole, One  
Thru Hole with Automatic or  
Manual Transmission

## Starter removal and installation

1. Disconnect starter wiring harness and remove old starter.
2. Make sure that the engine block to starter mounting surface is free of any rust, paint or debris to ensure proper grounding.
3. Hold new starter motor in position at engine block.
4. Install mounting bolts and tighten to 38 ft lbs.

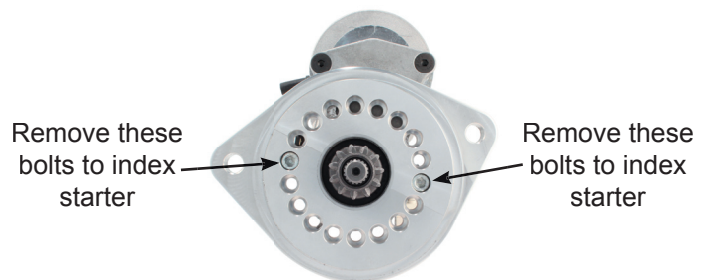
## Wiring the starter

1. Attach the positive battery cable to the large starter terminal. **DO NOT OVERTIGHTEN THE NUT!** The stud terminal is made of soft brass for superior conductivity and will strip if overtightened.
2. Connect existing ignition switch wire to the spade terminal.



## Indexing the starter

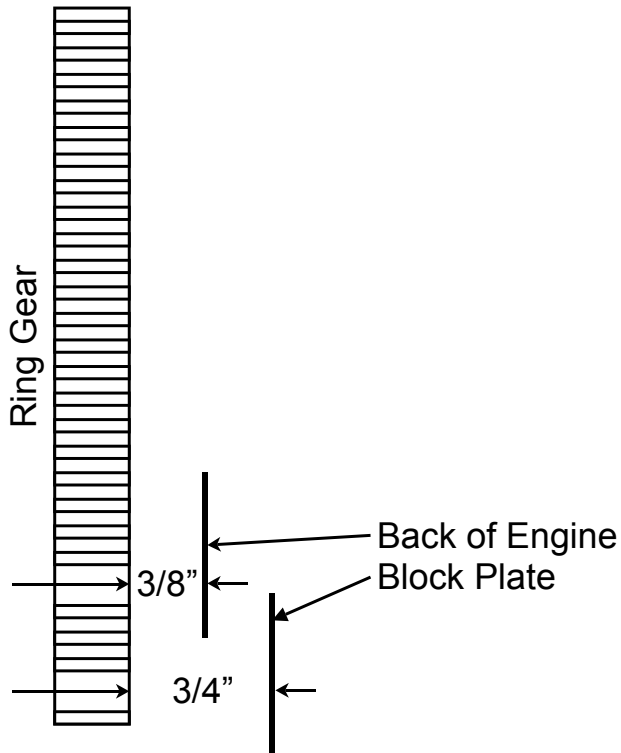
If the starter interferes with the engine block or any component, the entire starter motor can be rotated about the nose to gain additional clearance. To index the starter from the mounting block, remove the two bolts noted and turn the starter motor to gain additional clearance. Reinstall and tighten the mounting bolts once in position.





# FORD STARTER TECHNICAL INFORMATION

How to determine the correct starter for your Ford 289, 302, 351W & 351C engine



To determine exactly which Tuff Stuff starter to use, you need to take two measurements:

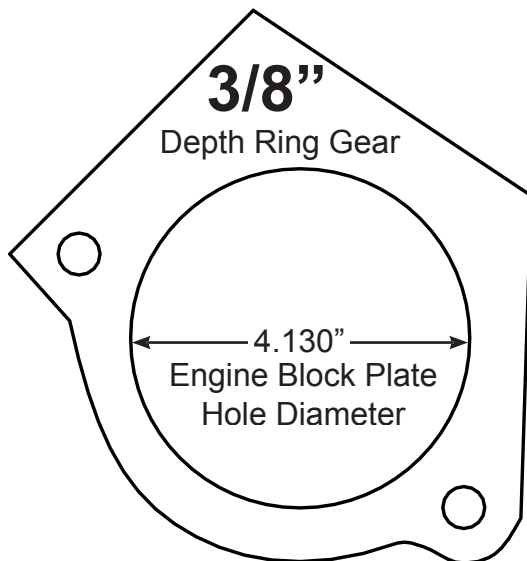
1-The ring gear to the back of the engine block plate dimension.

2-Engine block plate starter register hole diameter.

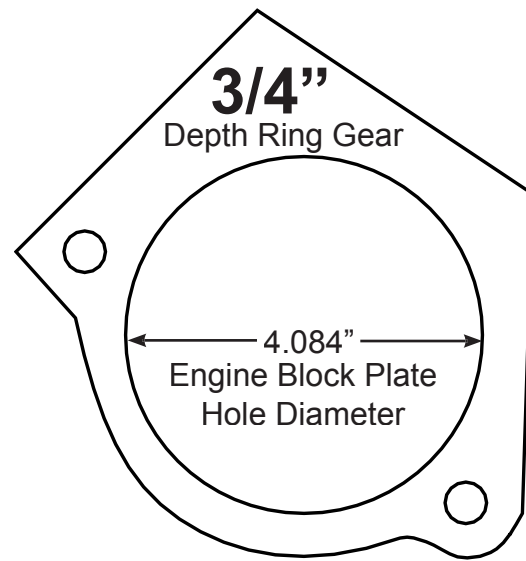
If your ring gear depth is **3/8"** and has a **4.130"** diameter starter bore register, use Tuff Stuff 13132 starter.

If your ring gear depth is **3/4"** and has a **4.084"** diameter starter bore register, use a Tuff Stuff 13124 starter.

The above information is based on stock OEM components. If using aftermarket flywheels or bellhousings, consult with the manufacturer.



164 Tooth Ring Gear with Manual Trans  
Use **13132** Tuff Stuff starter



164 Tooth Ring Gear with Auto Trans or  
157 Tooth Ring Gear with Auto or Manual Trans  
Use **13124** Tuff Stuff starter