

## Starters, Relays, and Alternators

### Tilton Super Starter® for Ford 1.6L and 2.0L



The Tilton Super Starter® is the closest thing to bulletproof that you can get. This gear reduction starter delivers greater torque and higher cranking speed, **and** draws less current! The pre-engaged pinion is easier on the flywheel than the original inertia-type starter, too. The three-bolt mounting flange is machined from solid aluminum billet. The housing can be clocked to three different positions on the mounting flange so the starter can clear obstructions. This allows its use on many chassis that use the Lucas starter. It will **not** fit '91 & later Van Diemen or most Reynards with the oil tank between engine and transaxle. Weighs 11.4 lbs.

**Super Starter® for Ford 1.6L / 2.0L** ..... Part No. 1165-002 ..... \$575.00  
**Replacement mounting flange** ..... Part No. 1158 ..... \$135.00  
**Replacement pinion assembly** ..... Part No. 1157-01 ..... \$95.00  
**Replacement solenoid** ..... Part No. TE 54-422HD ..... \$99.00  
*Replacement solenoid includes spring and plunger.*

### XLT Starters for FF1600, Sports 2000, and FA

The compact and lightweight Tilton XLT starter fits many applications that can't be accommodated with the Super Starter® sold above. It fits Ford 4-cylinder engines with 110 tooth ring gears mated to Hewland Mk 5 and Mk 8/9 gearboxes (Formula Ford 1600, Sports 2000, and some vintage Formula Atlantic). The housing can be clocked to 15 different positions (24° increments) on the mounting flange to clear obstructions. Weighs only 6.9 pounds!



**XLT Starter for FF with Mk 8/9** ..... Part No. 1151 ..... \$595.00  
**Replacement mounting flange** ..... Part No. TE 54-530 ..... \$125.00  
**Replacement pinion assembly** ..... Part No. TE 54-5409 ..... \$128.99  
**Replacement solenoid** ..... Part No. 1159 ..... \$70.00  
*Replacement solenoid includes spring and plunger.*

### 50 Amp Ultra-Mini Alternator

This super-compact 12 volt alternator is suitable for use on virtually any formula car or sports racer. It weighs only 6 pounds and is compact enough to fit in the smallest engine bay. Despite its size, it still puts out 50 amps. That's enough power to run an engine management system, data acquisition, on-board video, even driving lights for endurance racing. The single-wire design is simple to hook up. Just ground the body through the mount and connect the wire to the positive side of your battery — no other electronics or relays needed! Can be safely driven up to 15,000 rpm. Includes 2.5" diameter V-belt pulley. Measures approximately 5.5" front-to-back and 4.5" wide (6.5" including mounting ears).



**50 Amp Ultra-Mini Alternator, Single Wire** ..... Part No. 1177-501 ..... \$202.99

### Lucas Starters

We stock Lucas inertia-type starters, factory rebuilt by Delco Remy. These starters will have either a 9 or 10 tooth pinion. Either pinion will work properly with standard 110 tooth ring gears as used on Ford 1.6L and 2.0L engines (FF1600 and Sports 2000) and other common racing applications. Both mounting flanges have bolt holes located on a 4 1/2" bolt circle.



**Lucas Starter, 2 bolt flange** ..... Part No. 1140 ..... \$194.99  
**Lucas Starter, 3 bolt flange** ..... Part No. 1141 ..... \$179.99

### Lucas Starter Relays

3-Terminal  
 Starter Relay  
 Part No. 1160-3



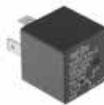
4-Terminal  
 Starter Relay  
 Part No. 1160-4

These quality, heavy-duty relays are standard equipment on most British race cars. The four-terminal version has an auxiliary switch contact to bypass a series ignition resistor during starting on cars that have a resistor in-line with the ignition coil.

**Lucas Starter Relay, 3 Terminal** ..... Part No. 1160-3 ..... \$41.99  
**Lucas Starter Relay, 4 Terminal** ..... Part No. 1160-4 ..... \$41.99

See page 109 for a  
**Starter Heat Shield Kit!**

### Change-Over Relays



Change-Over Relays  
 Left: Plain Style  
 Part No. 4411-001  
 Right: With Mounting Tab  
 Part No. 4411-002



Relays are designed to switch high-amperage loads using a compact switch with a lower amp rating. Our change-over relays offer 3-way operation for great versatility. Normally Open (50 amp max) turns on when the switch is on. Normally Closed (30 amp max) turns off when the switch is on. NO/NC (change-over) transfers power from the 30 amp circuit to the 50 amp circuit when the switch is off, and vice-versa. Maximum 20 millisecond make/break time. Requires 8 to 16 volts to operate (the 5v output on most data loggers is too low to trigger these relays). Standard ISO 5-pin connection. Sold individually.

**Change Over Relay, plain** ..... Part No. 4411-001 ..... \$5.29  
**Change Over Relay, with mounting tab** ..... Part No. 4411-002 ..... \$5.19  
**Pre-Wired Relay Socket, ISO 5-Pin** ..... Part No. 4411-021 ..... \$2.29  
*ISO 5-Pin arrangement works with either relay above, or with any other relay using the standard ISO 5-pin or 4-pin arrangement.*

## Longacre Pre-Wired Switch Panels and Accessories

**Longacre Pre-Wired Switch Panels** are an easy and good-looking alternative to building and assembling your own dashboard. Each panel is pre-wired to plug directly into the wiring harness sold separately at the bottom of this page. All of these panels include high-capacity 40 amp toggle switches with silicone rubber switch covers. Starter switches are heavy-duty push button type with a weatherproof cover. Each panel measures 3 5/8" high and is pre-drilled to match the Roll Bar Brackets sold separately at right. These panels are for regular (non-magneto) ignitions. Graphic designs may vary.

**Ignition Switch and Start Button only, 3 3/8" wide**  
 Part No. LA44861 ..... \$44.99  
**4 Accessory Switches with Pilot Lights only, 5 1/4" wide**  
 Part No. LA44865 ..... \$64.99

The following three panels also include a red military-style flip-up switch guard that can replace the rubber cover on the Ignition switch. All toggle switches (including the ignition switch) have pilot lights.

**Ignition Switch with Pilot Light and Start Button, 3 3/8" wide**  
 Part No. LA44863 ..... \$49.99  
**Ignition Switch, Start Button, 2 Accessory Switches w/Lights, 6 3/8" wide**  
 Part No. LA44867 ..... \$89.99  
**Ignition Switch, Start Button, 4 Accessory Switches w/Lights, 8 5/8" wide**  
 Part No. LA44869 ..... \$119.99

### Longacre 12 Gauge Wiring Harness

Save the hassle of assembling your own harness from scratch. This harness has the 4 basic circuits: power in, start, ignition, and accessory. Comes ready to install. Color-coded wires match all Longacre switch panels for an easy-to-understand and professional-looking job.

**Heavy-Duty 12 Gauge Wiring Harness** ..... Part No. 4493 ..... \$34.99



Roll Bar Brackets for Switch Panels

Ignition switch and start button only  
 Part No. LA44861



Four Accessory switches with pilot lights only  
 Part No. LA44865



Ignition switch with pilot light and start button  
 Part No. LA44863

Below: Ignition switch, start button, and 4 accessory switches  
 Part No. LA44869



### Roll Bar Bolt-On Switch Panel Mounting Brackets

Mount switch and gauge panels easily. Comes in 1 1/2" and 1 3/4" bar diameters, 3" center to center mounting fits all Longacre switch panels shown here. Sold in pairs.

**Roll Bar Brackets for 1 3/4" bar** ..... Part No. LA22783 ..... \$54.99  
**Roll Bar Brackets for 1 1/2" bar** ..... Part No. LA22787 ..... \$49.99

### Starter Switch with Weatherproof Cover



The same pushbutton starter switch Longacre installs in their pre-wired switch panels is also available separately. The heavy-duty 40 amp switch mounts in a 5/8" diameter hole and includes a sturdy weatherproof rubber cover. Two solderless ring terminals are included for quick installation.

**Starter Switch with rubber cover** ..... Part No. 4546 ..... \$16.99

### Ignition & Momentary Start Switch with Cover



Save dash space with this slick little switch! Standard-size 40 amp toggle switch has three positions to cover both ignition and starting: Down is off, Center is on, and Up is a momentary-contact on for the starter. Includes aircraft-style switch guard cover and pre-wired pigtail lead with quick-disconnect plug.

**Ignition & Momentary Start Switch** ..... Part No. LA4549 ..... \$44.99