

**ASSEMBLY INSTRUCTIONS**  
FOR  
**DYNALITE BIG BRAKE FRONT HUB KIT**  
**WITH 12.19" DIAMETER VENTED ROTOR**  
**1971 - 1980 PINTO • 1974 - 1978 MUSTANG II**  
(FIVE LUG CONFIGURATION ONLY)\*

PART NUMBER GROUP

**140-7017-B**

**DISC BRAKES SHOULD ONLY BE INSTALLED BY SOMEONE  
KNOWLEDGEABLE AND COMPETENT IN THE FUNCTIONING  
AND MAINTENANCE OF DISC BRAKES**  
**READ ALL WARNINGS**



**WARNING**

**DO NOT OPERATE ANY VEHICLE ON UNTESTED BRAKES!**  
**SEE MINIMUM TEST PROCEDURE WITHIN**

ALWAYS UTILIZE SAFETY RESTRAINT SYSTEMS AND ALL OTHER AVAILABLE SAFETY EQUIPMENT WHILE OPERATING THE VEHICLE

**IMPORTANT • READ THE DISCLAIMER OF WARRANTY INCLUDED IN THE KIT**

NOTE: Some cleaners may stain or remove the finish on brake system components. Test the cleaner on a hidden portion of the component before general use.

## Important Notice - Read This First

Before any tear-down or disassembly begins, review the following information:

- Review the wheel clearance diagram (figure 2, page 3) to verify that there is adequate clearance with the wheels you will be using with the installation.
- Front brake kits do not include flex lines. OEM brake lines will not adapt to Wilwood calipers. Check the assembly instructions, or associated components section for brake line recommendations before assembly.
- Due to OEM production differences and other variations from vehicle to vehicle, the fastener hardware and other components in this kit may not be suitable for a specific application or vehicle.
- It is the responsibility of the purchaser and installer of this kit to verify suitability / fitment of all components and ensure all fasteners and hardware achieve complete and proper engagement. Improper or inadequate engagement can lead to component failure.

## Exploded Assembly Diagram and Parts List

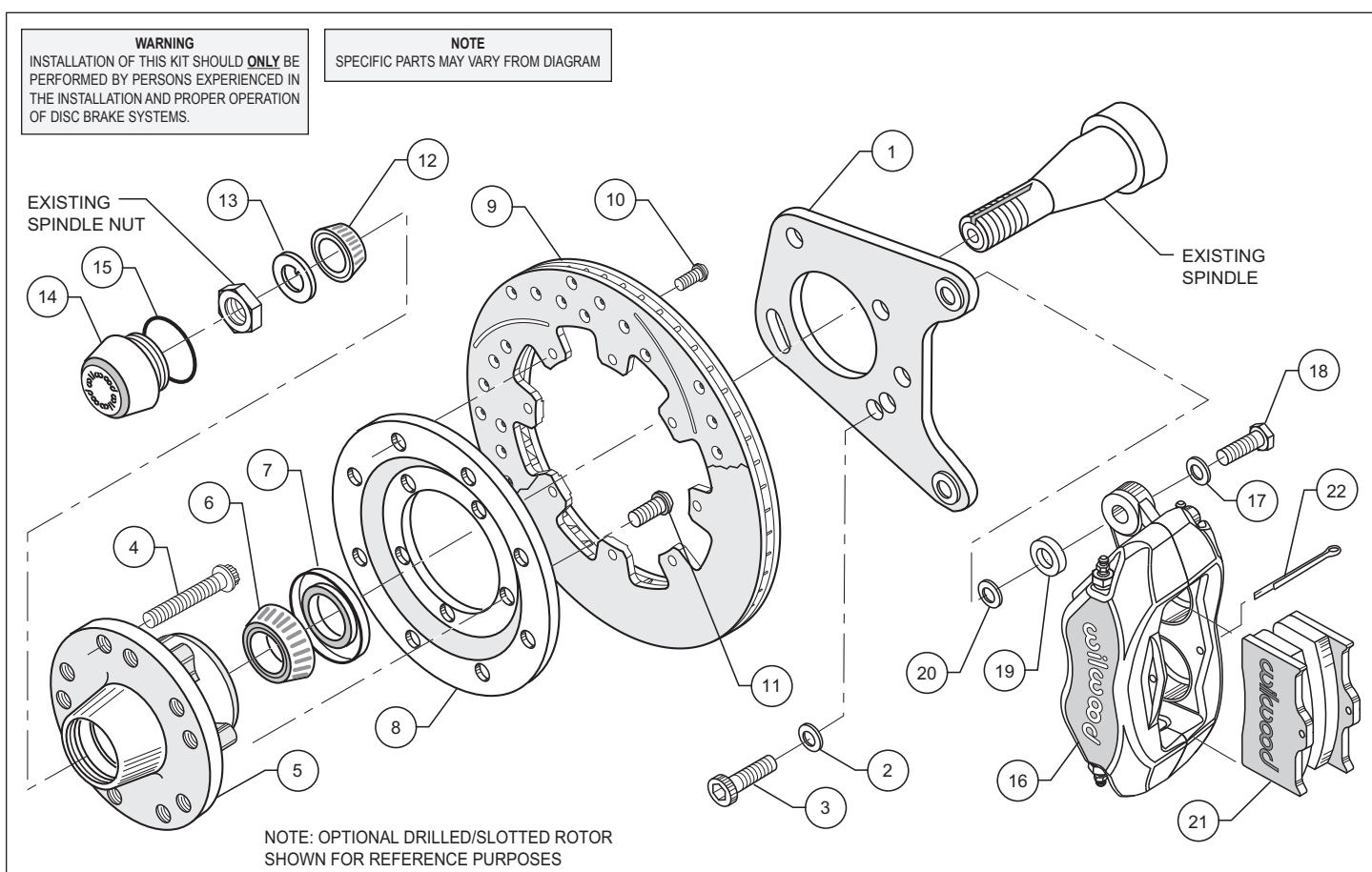


Figure 1. Typical Installation Configuration

## Parts List

| ITEM NO. | PART NO.    | DESCRIPTION   | QTY |
|----------|-------------|---|-----|
| 1        | 249-6935/36 | Brackets, Caliper Mounting (pair, one each, left and right) | 1   |
| 2        | 240-10190   | Washer, .391 I.D. x .625 O.D. x .063 Thick                  | 6   |
| 3        | 230-1493    | Bolt, 3/8-16 x 1.00 Long, Low Head SHCS                     | 6   |
| 4        | 230-2187    | Stud, 1/2-20 x 1.75 Long, 12 Point                          | 10  |
| 5        | 270-7276    | Hub Assembly  | 2   |
| 6        | 370-0884    | Cone, Inner Bearing   | 2   |
| 7        | 380-0885    | Seal, Grease  | 2   |
| 8        | 300-3099    | Adapter, Rotor  | 2   |
| 9        | 160-5843    | Rotor, .81" Thick x 12.19" Dia, 8 x 7.00" Bolt Circle       | 2   |
| 9A       | 160-7103/04 | Rotor, Drilled and Slotted                                  | 2   |
| 10       | 230-11934   | Bolt, 5/16-18 x 0.75 Long, Torx Button Head                 | 16  |
| 11       | 230-11239   | Bolt, 3/8-16 x 1.0 Long, Torx Button Head                   | 10  |
| 12       | 370-0882    | Cone, Outer Bearing   | 2   |
| 13       | 240-2444    | Washer, Spindle   | 2   |
| 14       | 270-2158    | Cap, Dust   | 2   |
| 15       | 211-1674    | O-ring  | 2   |
| 16       | 120-6816    | Caliper, Forged Dynalite                                    | 2   |
| 16A      | 120-6796-P  | Caliper, Forged Dynalite, Polished                          | 2   |
| 17       | 240-10190   | Washer, .391 I.D. x .625 O.D. x .063 Thick                  | 4   |
| 18       | 230-10025   | Bolt, 3/8-24 x 1.25 Long, Hex Head                          | 4   |
| 19       | 300-2130    | Spacer, Caliper to Bracket, .191 Long                       | 4   |
| 20       | 240-1159    | Shim, 0.032 inch Thick                                      | 16  |
| 21       | 150-8850K   | Pad, BP-10, Axle Set  | 1   |
| 22       | 180-0055S   | Pin, Cotter   | 2   |

### NOTES:

Part Number 230-3829 Bolt Kit, adapter plate to hub, includes part number 230-11239

Part Number 230-12120 Bolt Kit, rotor to adapter plate, includes part number 230-11934

Part Number 230-11861 Bolt Kit, caliper to bracket, includes part numbers 230-10025, 240-10190 and 240-1159

Part Number 230-9103 Bolt Kit, bracket to spindle, includes part numbers 230-1493 and 240-10190

Item 9A is an optional item and is included in the "-D" Kits, Add "-D" to end of part number when ordering

Item 16A is an optional item and is included in the "-P" Kits, Add "-P" to end of part number when ordering

## General Information

Installation of this kit should **ONLY** be performed by persons experienced in the installation and proper operation of disc brake systems. Before assembling the Wilwood front disc brake kit, double check the following items to ensure a trouble free installation.

- Make sure this is the correct kit to match the exact make and model year of the vehicles spindle (i.e., hubs for a 1975 Mustang spindle may not fit a 1982 Mustang spindle).
- Verify the hub stud pattern in this kit (5 x 4.50 or 5 x 4.75) matches the stud pattern of the vehicles wheels.
- Inspect the package contents against the parts list to ensure that all components and hardware are included.
- Verify your wheel clearance using Figure 2.
- WARNING:** The wheel contact surfaces must seat completely on the face of the hub. If any contact surfaces overhang the outside diameter of the hub face, a 6.60" diameter x .20" thick steel spacer (Wilwood P/N 300-11961, sold separately) MUST be used between the wheel and the hub.
- To prevent damage to the hub face, a 6.15" diameter x .09" thick hub shield

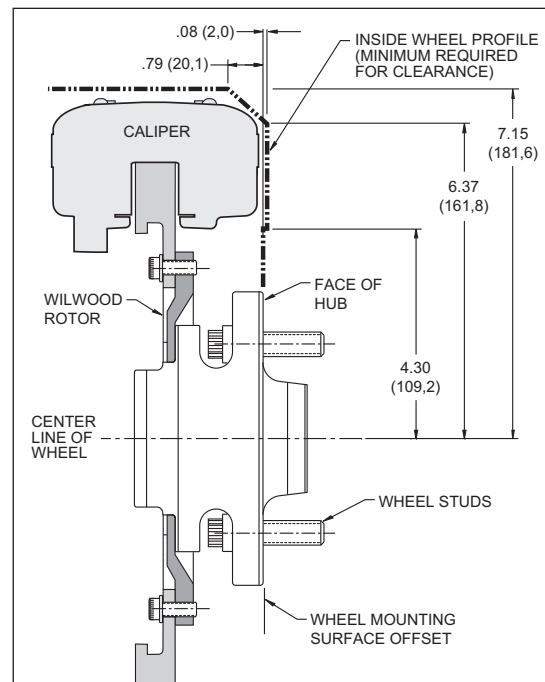


Figure 2. Wheel Clearance Diagram

## General Information (Continued) Disassembly and Assembly Instructions

(Wilwood P/N 300-10716, sold separately) should be used with any *stamped steel wheels* that do NOT overhang the outside diameter of the hub face.

- Always tighten lug nuts to the wheel manufacturer's specifications.
- Always recheck the lug nuts after test driving the vehicle at safe speeds. If they are NOT still tight, inspect the wheel-to-hub contact surfaces for damage and/or incomplete contact.
- As routine maintenance, periodically remove the wheels and inspect the wheel-to-hub contact surfaces for damage.
- It is the installer's responsibility to ensure that the wheels used with this hub kit are properly and securely installed. Some wheels may NOT be compatible with the hub in this kit.

### Disassembly Instructions:

- Disassemble the original equipment front brakes:

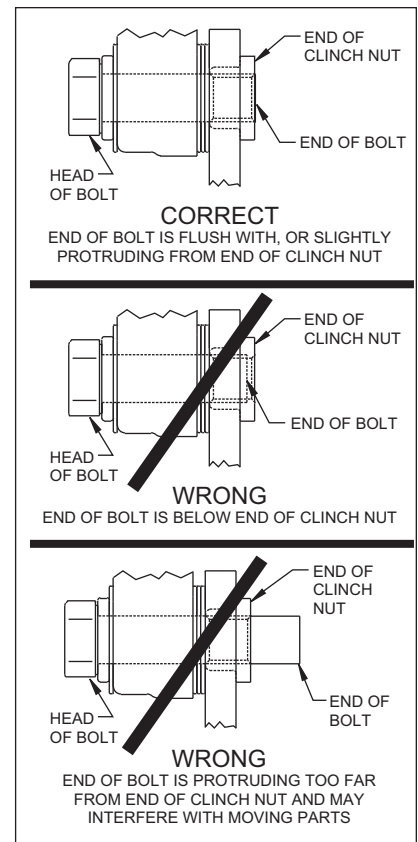
Raise the front wheels off the ground and support the front suspension according to the vehicle manufacturer's instructions.

Remove the center cap, cotter pin, nut lock, wheel bearing nut and wheel bearing washer. Save the wheel bearing nut and nut locking device. Remove the brake drum or rotor and hub assembly, including the wheel bearings. Disconnect the brake hoses from the brake line at the body. Unbolt and remove the original caliper and caliper bracket. Remove the dust shield retaining bolts and the dust shield.

- Thoroughly clean the spindles.

**Assembly Instructions** (numbers in parenthesis refer to the part list/diagram on the preceding page): **CAUTION:** All mounting bolts must fully engage insert nuts. Be sure to check that all bolts are either flush or protruding through flanged side of insert nut after shimming.

- Position the caliper mounting bracket (1) on the spindle. **NOTE:** Be sure the heads of the caliper bracket (1) insert nuts are facing outward toward the wheel. Place one washer (2) on each of the three caliper bracket bolts (3). Mount bracket to the dust plate face of the spindle and align the three 3/8-16 holes in the spindle with the corresponding holes in the bracket (1). Apply red *Loctite*® 271 to all three bolt threads (3) and install. Torque bolts (3) to 22 ft-lb.
- Install wheel studs (4) into the hub (5). Torque to 77 ft-lb. **NOTE:** There are two lug patterns of five holes each in the hub (5 x 4.50 and 5 x 4.75). Make sure of the correct hole pattern for the wheel application before installing the studs into the hub.
- Orient the rotor (9) and the rotor adapter (8) as shown in Figure 1. Attach the rotor to the adapter using bolts (10). Using an alternating sequence, apply red *Loctite*® 271 to the threads, and torque to 25 ft-lb.
- Mount the adapter/rotor assembly (8/9) to the hub (5) using bolts (11), as shown in Figure 1. Using an alternating sequence, apply red *Loctite*® 271 to the threads, and torque to 55 ft-lb.
- Pack the large inner bearing cone (6) with high temperature disc brake bearing grease (available from your local auto parts store) and install into the backside of the hub (5).
- Install the grease seal (7) by pressing into the backside of the hub (5).
- Pack the small outer bearing cone (12) with high temperature disc brake bearing grease and install into front of hub (5). Slide the hub assembly (5, 6, 7 and 9) with outer bearing cone (12) onto the spindle. Secure using spindle washer (13), stock adjusting nut and nut locking device. Adjust bearings per Original Equipment Manufacturer (OEM) specifications.



## Assembly Instructions (Continued)

- Install the o-ring (15) and the dust cap (14) onto the hub (5). Friction created by the o-ring (15) on the dust cap (14) keeps it from unscrewing on its own.
- **NOTE:** Please reference the caution statement at the beginning of the assembly instructions. Mount the caliper (16) onto the caliper bracket (1) using washers (17), bolts (18) and caliper spacers (19). Finger tighten. View the rotor (9) through the top opening of the caliper (16). The rotor (9) should be aligned in the center of the caliper (16). If not, adjust the caliper (16) by using 0.032 inch thick shims (20) placed between the caliper mounting bracket (1) and the caliper spacer (19). Finger tighten and recheck alignment. Add as many shim washers (20) as necessary to achieve the correct alignment. **NOTE:** The end of the bolt must be flush with or slightly protruding from the head of the clinch nut. See Figure 3. Place spare shims (20) between washer and caliper mounting ear to achieve the proper mounting fastener configuration. Always use the same amount of shims on both the top and bottom caliper mounting bolts (18). Apply red Loctite® 271 to bolt threads (18) and torque to 40 ft-lb.
- Install the disc brake pads (21) and secure using cotter pin (22).
- Temporarily install wheel and torque lug nuts to manufacturer's specification. Ensure that the wheel rotates freely without any interference. **NOTE:** Wheel spacer (Wilwood P/N 300-11961) MUST be used if any wheel contact surfaces overhang the outside diameter of the hub face.
- Repeat this entire procedure for the other wheel.
- **NOTE:** OEM rubber brake hoses generally cannot be adapted to Wilwood calipers. The caliper inlet fitting is a 1/8-27 NPT. The preferred method is to use steel adapter fittings at the caliper, either straight, 45 or 90 degree and enough steel braided line to allow for full suspension travel and turning radius, lock to lock. **Carefully route lines to prevent contact with moving suspension, brake or wheel components.** Wilwood hose kits are designed for use in many different vehicle applications and it is the installer's responsibility to properly route and ensure adequate clearance and retention for brake hose components.
- Specified brake hose kits may not work with all Years, Makes and Models of vehicle that this brake kit is applicable to, due to possible OEM manufacturing changes during a production vehicle's life. It is the installer's responsibility to ensure that all fittings and hoses are the correct size and length, to ensure proper sealing and that they will not be subject to crimping, strain and abrasion from vibration or interference with suspension components, brake rotor or wheel.
- In absence of specific instructions for brake line routing, the installer must use his best professional judgment on correct routing and retention of lines to ensure safe operation. Test vehicle brake system per the 'minimum test' procedure stated within this document before driving. After road testing, inspect for leaks and interference. Initially after install and testing, perform frequent checks of the vehicle brake system and lines before driving, to confirm that there is no undue wear or interference not apparent from the initial test. Afterwards, perform periodic inspections for function, leaks and wear in a interval relative to the usage of vehicle.
- Bleed the brake system. Reference the general information and recommendations on page 6 for proper bleeding instructions.
- Install the wheel and torque to manufacturer's specifications. **NOTE:** Wheel spacer (Wilwood P/N 300-11961) MUST be used if any wheel contact surfaces overhang the outside diameter of the hub face.

## Balancing the Brake Bias on 4 Wheel Disc Vehicles

### •OE Style or Single Mount Race Pedal with Tandem Outlet Master Cylinder:

Front to rear caliper piston sizes, rotor diameters, and pad compounds must be initially configured to provide the correct range of vehicle bias when using a single bore / tandem outlet master cylinder. If excessive rear brake bias is experienced, an inline adjustable proportioning valve can be used to decrease the rear line pressure to help bring the vehicle into balance. If excessive front brake bias is experienced, first consideration should be given to increasing the rear brake bias to bring the vehicle into overall balance.

### •Race Pedal with Dual Master Cylinders and Balance Bar:

Master cylinders must be sized to match the calipers and allow the pedal balance bar to operate near the center of its travel. If it is not possible to fine tune the bias within the adjustable range of the balance bar, then consideration must be given to changing a master cylinder bore size or some other aspect of the brake system to bring the car into balance. Larger bore master cylinders will generate less pressure while decreasing pedal travel. Smaller bores master cylinders will generate higher line pressures with an increase in pedal travel.

## Additional Information and Recommendations

• Fill and bleed the new system with Wilwood Hi-Temp<sup>o</sup> 570 grade fluid or higher. For severe braking or sustained high heat operation, use Wilwood EXP 600 Plus Racing Brake Fluid. Used fluid must be completely flushed from the system to prevent contamination.

**NOTE:** *Silicone DOT 5 brake fluid is **NOT** recommended for racing or performance driving.*

• To properly bleed the brake system, begin with the caliper farthest from the master cylinder. Bleed the outboard bleed screw first, then the inboard. Repeat the procedure until all calipers in the system are bled, ending with the caliper closest to the master cylinder.

**NOTE:** *When using a new master cylinder, it is important to bench bleed the master cylinder first.*

• If the master cylinder is mounted lower than the disc brake calipers, some fluid flowback to the master cylinder reservoir may occur, creating a vacuum effect that retracts the caliper pistons into the housing. This will cause the pedal to go to the floor on the first stroke until it has “pumped up” and moved all the pistons out against the pad again. A Wilwood in-line two pound residual pressure valve, installed near the master cylinder will stop the fluid flowback and keep the pedal firm and responsive.

• Test the brake pedal. It should be firm, not spongy and stop at least 1 inch from the floor under heavy load.

If the brake pedal is spongy, bleed the system again.

If the brake pedal is initially firm, but then sinks to the floor, check the system for fluid leaks. Correct the leaks (if applicable) and then bleed the system again.

If the brake pedal goes to the floor and continued bleeding of the system does not correct the problem, a master cylinder with increased capacity (larger bore diameter) will be required. Wilwood offers various lightweight master cylinders with large fluid displacement capacities.

**NOTE:** *With the installation of after market disc brakes, the wheel track may change depending on the application. Check your wheel offset before final assembly.*

• On some models of disc brake spindles there are “ears” where the OEM calipers were mounted and these “ears” interfere with the assembly of the Wilwood disc brake kit. If it becomes necessary to remove these “ears”, remove as little as possible being careful not to cut away any of the mounting holes that may be required to bolt on the caliper mounting bracket.

• If after following the instructions, you still have difficulty in assembling or bleeding your Wilwood disc brakes, consult your local chassis builder, or retailer where the kit was purchased for further assistance.

## Brake Testing and Pad Bedding

### **WARNING • DO NOT DRIVE ON UNTESTED BRAKES BRAKES MUST BE TESTED AFTER INSTALLATION OR MAINTENANCE MINIMUM TEST PROCEDURE**

- Make sure pedal is firm: Hold firm pressure on pedal for several minutes, it should remain in position without sinking. If pedal sinks toward floor, check system for fluid leaks. DO NOT drive vehicle if pedal does not stay firm or can be pushed to the floor with normal pressure.
- At very low speed (2-5 mph) apply brakes hard several times while turning steering from full left to full right, repeat several times. Remove the wheels and check that components are not touching, rubbing, or leaking.
- Carefully examine all brake components, brake lines, and fittings for leaks and interference.
- Make sure there is no interference with wheels or suspension components.
- Drive vehicle at low speed (15-20 mph) making moderate and hard stops. Brakes should feel normal and positive. Again check for leaks and interference.
- Always test vehicle in a safe place where there is no danger to (or from) other people or vehicles.
- Always wear seat belts and make use of all safety equipment.

#### **PAD BEDDING PROCEDURE:**

• Pump brakes at low speed to assure proper operation. On the race track, or other safe location, make a series of hard stops until some brake fade is experienced. Allow brakes to cool while driving at moderate speed to avoid use of the brakes. This process will properly burnish the brake pads, offering maximum performance.

### **Associated Components**

| <b><u>PART NO.</u></b> | <b><u>DESCRIPTION</u></b>                                  |
|------------------------|--|
| 260-1874               | Wilwood Residual Pressure Valve (2 lb for disc brakes)     |
| 260-1876               | Wilwood Residual Pressure Valve (10 lb for drum brakes)    |
| 260-8419               | Wilwood Proportioning Valve                                |
| 290-0632               | Wilwood Racing Brake Fluid (Hi-Temp° 570) (12 oz)          |
| 290-6209               | Wilwood Racing Brake Fluid (EXP 600 Plus) (16.9 oz)        |
| 340-1285               | Wilwood Floor Mount Brake Pedal (with balance bar)         |
| 340-1287               | Wilwood Swing Mount Brake Pedal (with balance bar)         |
| 260-6764               | Wilwood 3/4 inch High Volume Aluminum Master Cylinder      |
| 260-6765               | Wilwood 7/8 inch High Volume Aluminum Master Cylinder      |
| 260-6766               | Wilwood 1 inch High Volume Aluminum Master Cylinder        |
| 260-4893               | 1-1/16 inch Tandem Master Cylinder (aluminum housing)      |
| 250-2406               | Mounting Bracket Kit (tandem master cylinder)              |
| 260-8555               | Wilwood 1 inch Aluminum Tandem Chamber Master Cylinder     |
| 260-8556               | Wilwood 1-1/8 inch Aluminum Tandem Chamber Master Cylinder |
| 350-2038               | 1971 - 1973 Pinto Rack and Pinion (new, not rebuilt)       |
| 270-2016               | Quick Release Steering Hub (3/4 inch shaft)                |
| 270-2017               | Quick Release Steering Hub (5/8 inch shaft)                |
| 220-7056               | Flexline Kit, Universal, 14 Inch, Domestic                 |
| 220-7699               | Flexline Kit, Universal, 16 Inch, Domestic                 |
| 220-8307               | Flexline Kit, Universal, 18 Inch, Domestic                 |