



## Installation Instructions: Pro XP Clutch Weight (Part # 560-0344)

### DISCLAIMER:

Many S&S parts are designed for high performance, closed course, racing applications and are intended for the very experienced rider only. The installation of S&S parts may void or adversely affect your factory warranty. In addition such installation and use may violate certain federal, state, and local laws, rules and ordinances as well as other laws when used on motor vehicles used on public highways. Always check federal, state, and local laws before modifying your motorcycle. It is the sole and exclusive responsibility of the user to determine the suitability of the product for his or her use, and the user shall assume all legal, personal injury risk and liability and all other obligations, duties, and risks associated therewith.

NOT LEGAL FOR SALE OR USE IN CALIFORNIA ON ANY POLLUTION CONTROLLED MOTOR VEHICLE. NOT LEGAL FOR SALE OR USE NATIONWIDE ON ANY FEDERAL POLLUTION CONTROLLED MOTOR VEHICLE UNDER THE CLEAN AIR ACT

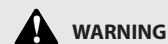
### SAFE INSTALLATION AND OPERATION RULES:

Before installing your new S&S part, it is your responsibility to read and follow the installation and maintenance procedures in these instructions and follow the basic rules below for your personal safety.

- Gasoline is extremely flammable and explosive under certain conditions and toxic when breathed. Do not smoke. Perform installation in a well ventilated area away from open flames or sparks.
- If motorcycle has been running, wait until engine and exhaust pipes have cooled down to avoid getting burned before performing any installation steps.
- Before performing any installation steps, disconnect battery to eliminate potential sparks and inadvertent engagement of starter while working on electrical components.
- Read instructions thoroughly and carefully so all procedures are completely understood before performing any installation steps. Contact S&S with any questions you may have if any steps are unclear or any abnormalities occur during installation or operation of motorcycle with an S&S part on it.
- Consult an appropriate service manual for your motorcycle for correct disassembly and reassembly procedures for any parts that need to be removed to facilitate installation.
- Use good judgment when performing installation and operating motorcycle. Good judgment begins with a clear head. Don't let alcohol, drugs or fatigue impair your judgment. Start installation when you are fresh.
- Be sure all federal, state and local laws are obeyed with the installation.
- For optimum performance and safety and to minimize potential damage to carb or other components, use all mounting hardware that is provided and follow all installation instructions.
- Motorcycle exhaust fumes are toxic and poisonous and must not be breathed. Run motorcycle in a well ventilated area where fumes can dissipate.

### IMPORTANT NOTICE:

Statements in this instruction sheet preceded by the following words are of special significance.



#### WARNING

Means there is the possibility of injury to yourself or others.



#### CAUTION

Means there is the possibility of damage to the part or motorcycle.

#### NOTE

*Other information of particular importance has been placed in italic type.*

*S&S recommends you take special notice of these items.*

### WARRANTY:

All S&S parts are guaranteed to the original purchaser to be free of manufacturing defects in materials and workmanship for a period of twenty-four (24) months from the date of purchase. Merchandise that fails to conform to these conditions will be repaired or replaced at S&S's option if the parts are returned to us by the purchaser within the 24 month warranty period or within 10 days thereafter. Some parts may additionally be covered under a provided emissions defects warranty.

In the event warranty service is required, the original purchaser must call or write S&S immediately with the problem. Some problems can be rectified by a telephone call and need no further course of action.

A part that is suspect of being defective must not be replaced by a Dealer without prior authorization from S&S. If it is deemed necessary for S&S to make an evaluation to determine whether the part was defective, a return authorization number must be obtained from S&S. The parts must be packaged properly so as to not cause further damage and be returned prepaid to S&S with a copy of the original invoice of purchase and a detailed letter outlining the nature of the problem, how the part was used and the circumstances at the time of failure. If after an evaluation has been made by S&S and the part was found to be defective, repair, replacement or refund will be granted.

### ADDITIONAL WARRANTY PROVISIONS:

- (1) S&S shall have no obligation in the event an S&S part is modified by any other person or organization.
- (2) S&S shall have no obligation if an S&S part becomes defective in whole or in part as a result of improper installation, improper maintenance, improper use, abnormal operation, or any other misuse or mistreatment of the S&S part.
- (3) S&S shall not be liable for any consequential or incidental damages resulting from the failure of an S&S part, the breach of any warranties, the failure to deliver, delay in delivery, delivery in non-conforming condition, or for any other breach of contract or duty between S&S and a customer.



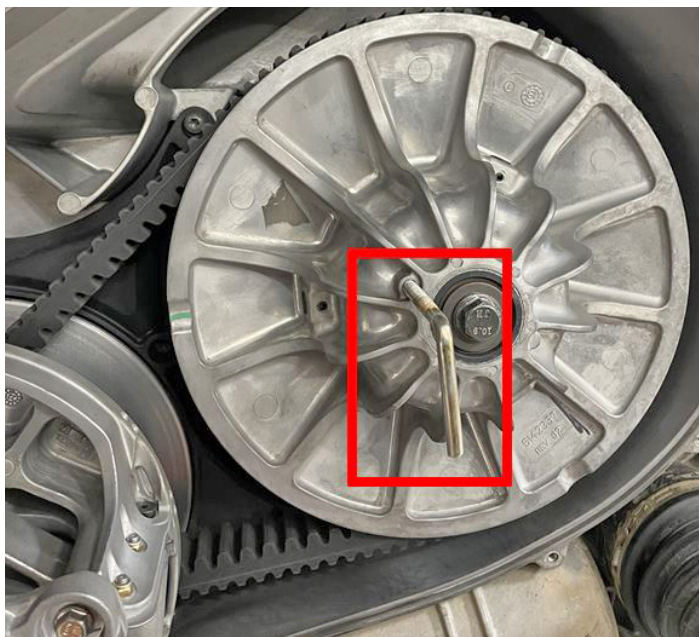
### Before you start



Disconnect the ground cable on the negative terminal of the battery to prevent accidental engagement of the starter.

#### **Belt Removal**

1. Loosen band clamps on PVT inlet duct tube to outer clutch cover. Remove the tube.
2. Loosen fourteen fasteners retaining outer clutch cover, remove the cover.
3. Mark drive belt direction of rotation for reinstallation.
4. Thread in the OEM clutch spreader tool into the driven clutch to spread the sheaves.



5. Walk the belt out of the driven and drive clutch. Remove the belt from the vehicle.
6. Inspect belt wear.

#### **Drive Clutch Removal**

1. Using a permanent marker, mark the cover, spider, moveable sheave and stationary sheave for reference.



2. Insert drive clutch holding tool onto drive clutch.

3. Remove the drive clutch retaining bolt using a T-60 Torx bit.



4. Remove the moveable sheave assembly. (Note the stationary sheave will stay attached to the crankshaft).

#### **Clutch Disassembly**

1. Remove the outer clutch post from the moveable sheave assembly. Note the orientation of the belleville washer and washer.



2. Remove cover bolts evenly in a cross pattern and remove cover plate.



3. Remove and inspect the clutch spring. Refer to service manual for procedure.



### **Spider Removal**

1. Remove the spider assembly by hand.
2. Inspect all rollers, roller pins, roller washers and spider buttons.



3. Turn roller with your finger, if you notice resistance, galling or flat spots, replace the rollers.

### **Flyweight Removal**

1. Remove Flyweight fasteners and weights.



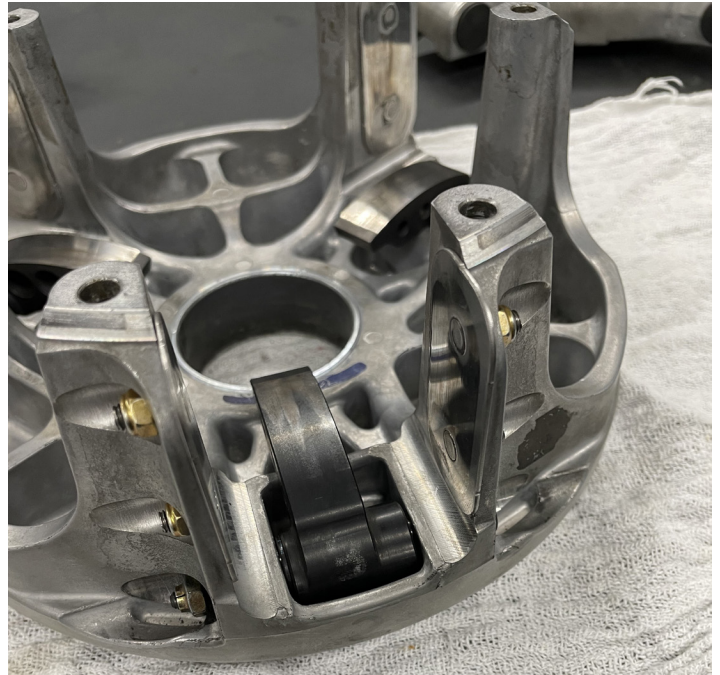
2. Inspect shoulder bolts for excessive wear, replace if necessary.



3. Inspect flyweight pocket on movable sheave for excessive wear.

### **Flyweight Installation**

1. Install S&S flyweight with desired amount of weight. Torque fastener to specification. Refer to service manual for specification.



### **Moveable Sheave Assembly**

1. Install spider into moveable sheave, make sure to align the X's on spider and movable sheave.
2. Install spring and cover making sure to align permanent marker marks. Install clutch cover bolts and hand tighten.



3. Torque cover bolts in a cross pattern evenly to specification. Refer to service manual for torque specification.



## Drive Clutch Assembly

1. Install moveable sheave assembly on the crankshaft making sure to align permanent marker marks with the stationary sheave.
2. Insert drive clutch holding tool onto drive clutch.
3. Install drive clutch bolt and torque bolt to specification. Refer to service manual for torque specifications.
4. With the clutch spreader tool installed, loop the belt over the drive clutch and over part of the driven clutch. Be sure to install the belt in the direction previously marked.



5. Rotate the driven clutch and walk the belt into the clutch
6. Remove the clutch spreader tool from the driven clutch.
7. Rotate the driven clutch and belt approximately 5-7 times to properly seat the belt in the driven clutch.
8. Install the outer clutch cover and fourteen fasteners. Torque fasteners to specification. Refer to the service manual for torque specifications.
9. Install the PVT inlet duct and torque hose clamps to specification. Refer to service manual for specification.

## Setup

**NOTE:** *Tuning is largely affected by both the drive and driven clutches. It is essential to make sure all wear parts (springs, buttons, rollers etc.) are within spec.*

1. Generally:
  - a. 1 magnet (1.3g) will equal  $\approx 75$  RPM depending upon where it is placed.
  - b. More weight = less RPM.
2. Weight In Hole 1
  - a. This will have an effect on low speed  $\approx (0-25$  MPH).
  - b. More Weight here will decrease engagement speed making it more desirable for rock crawling or technical trail riding.
3. Weight In Hole 2
  - a. This will have an effect on mid range  $\approx (25-50$  MPH)
4. Weight In Hole 3
  - a. This will have an effect on top end  $\approx (50 +$  MPH)
  - b. More weight here will increase engagement speed making it more desirable for high speed riding.

**NOTE:** *Desired RPM for this machine is around 8400-8500 RPM.*

## Tuning Tips:

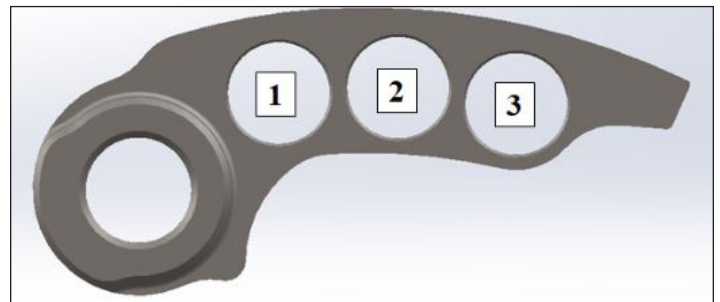
1. Find a long, flat asphalt spot to test on.
2. Start by installing S&S weights with 2-1-0 loading.
  - a. From a roll on at 5 MPH, go WOT and measure RPM at 50-55 MPH
  - b. Add magnets to desired holes to dial in RPM.

The following is a suggestion for primary clutch weight loading. Magnet position can be adjusted based on your vehicle setup and desired performance.

## Table 1: Weight Loading Suggestion

See Picture 12 Below For Magnet Locations

Engine Modifications	Tire Diameter	Position 1 Magnets	Position 2 Magnets	Position 3 Magnets
Stock	Stock	2	1	0



Picture 12