



TD43 CLUTCH MANUAL

Your TD43 clutch is designed to provide you with a clutch that is race ready right out of the box. There are several new features on the TD43 that are different. Please read the following.

CLUTCH INSTALLATION

The clutch comes equipped for inboard use (sprocket facing the motor). Mounting outboard requires an optional spacer kit.

- A crankshaft spacer is provided in your installation package. This spacer goes on the crankshaft first. It is intended to protect your drive hub from damage due to the large radius on the crankshaft. Install the spacer (PN 490121) with the radius towards the motor.
- Slide the clutch onto the crankshaft.
- Align the drive hub with the keyway on the shaft.
- Install 3/16, special key (PN 900417). If the key does not slide easily into the keyway, a small amount of filing of the key may be necessary.
- Install flat washer (PN 900434), lock washer (PN 900415) and the 5/16 bolt (PN 900416).
- Torque the 5/16 bolt to 155 inch pounds.

CLUTCH STALL SPEED

The TD43 clutch comes race prepared with one of the stall speed ranges shown in the adjacent chart.

All Tomar clutches come equipped with equally matched springs.

CLUTCH	STALL SPEED RANGE	SPRINGS / COLOR
TD43-2 Junior	2800-3400	.085 Black
TD43-2 Stock / Stock Animal	3600-4200	.091 Red
TD43-3 Animal Modified	4700-5200	.091 Red
TD43-3 Modified	5400-6000	.093 Yellow

STALL SPEED / CLUTCH SLIP

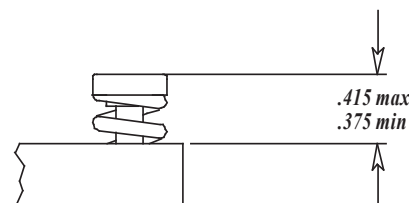
Stall speed or clutch slip is the rpm that you see on your tachometer as you leave the pits. Clutch slip should be adjusted so that it is just below the peak torque of the motor (50 rpm). It would be very difficult to adjust the clutch exactly on peak torque, therefore, go just a little below so that you can use the peak torque to your advantage.

When adjusting the clutch slip, **1/4 turn of the adjusting screws equal 150 rpm change of clutch slip.**

TO ADJUST THE STALL SPEED WITHIN THE STALL SPEED RANGE

Rotating the adjusting screws will change the rpm within the rpm range listed above. Clockwise rotation will increase the stall speed. Counter clockwise rotation will reduce the stall speed.

If you wish to operate the clutch outside of the range shown in the illustration, you will need to add or remove weight or change the strength of the spring.





TO CHANGE THE STALL SPEED RANGE

- Removing washers will raise the stall speed range.
- Removing 2 washers will raise the stall speed range 200 rpm.
- Do not add more washers than the clutch is originally equipped with. Adding additional washers may cause damage or promote breakage.
- Changing the springs will raise or lower the stall speed range.
- The stronger spring will raise the stall speed range. The weaker spring will lower the stall speed range. When you change from one wire diameter to the other, this will raise or lower your stall speed range by approximately 1000 rpm.

SPRING/COLOR	DIAMETER	STRENGTH
464900 / Red	.091	Strongest
465000 / Black	.085	Weakest

After deciding what stall speed range you require, you can go back and fine tune the stall speed by adjusting the stall speed adjusting screw.

AIR GAP

The air gap is the internal clearance that the friction discs and floater can be moved before touching the pressure plate or fixed plate.

- The easiest way to measure is to use a feeler gage. Slide it between the friction disc and the pressure plate.

The optimum air gap is .035" - .040". All Tomar TD43 clutches have this air gap. The maximum allowed is .050".

Air gap can be changed two ways.

- Change the rotor. Tomar rotors come in .005" increments.
- Add or take out a shim. Tomar shims are .003" thick.

REPLACING FRICTION DISCS

Friction disc replacement is required if the discs are below the minimum limits.

- 1/2 Lining – .086 – 2 Disc Models / 3 Disc Models
- Center Lining - .120" – 3 Disc Models

CAUTION: THE 1/2 LININGS ONLY HAVE FRICTION MATERIAL ON ONE SIDE. THE FRICTION MATERIAL POINTS INWARD TOWARD THE ROTOR. THE STEEL BACK GOES OUTWARD TOWARD THE PRESSURE PLATE AND FIXED PLATE.

Tomar's friction discs last longer than most other brands. The drive lugs will usually wear down before the friction disc needs to be replaced.

MAINTENANCE / CLEANING

The clutch should be removed from the engine after every race day. It should be blown out with compressed air. This will remove all dirt, dust, and debris. The clutch does not need to be disassembled. Contact cleaner or brake cleaner can be used. Caution must be taken if you use brake cleaner. Brake cleaner will remove paint. Read the brake cleaner label before using it. Do not use soap, water, gasoline or any other solvents to clean the clutch. The sprocket and internal thrust washer should be cleaned and lightly lubricated with a small quantity of white grease or wheel bearing grease. A very small amount of grease is all that is required. Excessive lubricant will be thrown out and can get on the friction disc.

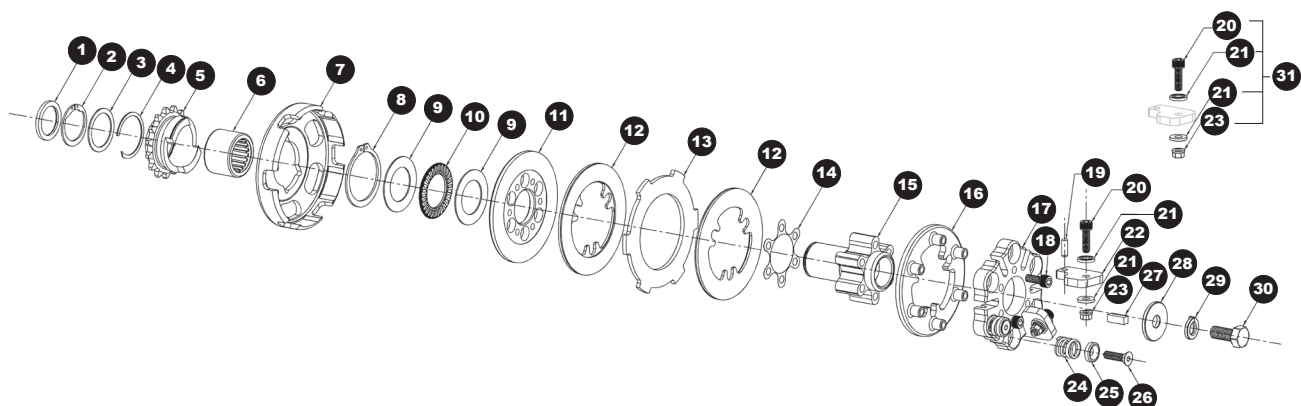


Figure No.	Part No.	Description
1	490121	Spacer, crankshaft
	490122	Spacer, crankshaft 11T
2	490113	Snap Ring, External
3	490114	Thrust Washer, Outer 12T-23T, .030 Thick
	490129	Thrust Washer, Outer 12T-23T, .050 Thick
4	490115	Retaining Ring, Outer
5		Sprocket Assembly (9T – 23T)
6	490116	Bushing, Bronze (12T & 13T / 35)
	490117	Bearing (14T-35 and up)
7	480999	Bushing, Bronze 11T
	482002	Drum, Aluminum TD43-3 Disc
	482114	Drum, Aluminum TD43-2 Disc
	482115	Drum, Steel TD43-2 Disc
8	490118	Snap Ring, Sprocket Internal
	490119	Thrust Washer, Internal
9	490123	Thrust Washer, Internal 11T
	490120	Thrust Bearing, Internal
10	490124	Thrust Bearing, Internal 11T
11	482101	Fixed Plate, TD43
12	400004	Friction Disc, ½ Lining, TD43
	400005	Friction Disc, TD43-3 (for 3 Disc Only)
13	482104	Rotor, .085
	482105	Rotor, .080
	482106	Rotor, .090

14	482108	Shim, .003
15	482100	Drive Hub TD43-3 Disc
	482111	Drive Hub, TD43-3 Disc 11T
	482112	Drive Hub, TD43-2 Disc 11T
16	482113	Drive Hub TD43-2 Disc
	482102	Pressure Plate TD43
17	482109	Weight Support TD43
	482103	Weight Support TD43 Modified
18	900393	Bolt, Weight Support 2-Disc
	900392	Bolt, Weight Support 3-Disc
19	490112	Dowel Pins, Lever
20	900413	Bolt, Weight Kit
21	900418	Washer, Weight Kit
22	482110	Lever, TD43 Stock/Stock Animal
	482097	Lever, TD43 Modified
23	900420	Nut, weight kit
24	465000	Spring, .085 Black
	464900	Spring, .091 Red
	464800	Spring, .093 Yellow
25	334700	Retainer, adjusting screw
26	334800	Screw, adjusting
27	900417	Key, 3/16 special
28	900434	Flat washer, 5/16 special
29	900415	Lock washer, 5/16
30	900416	Bolt, 5/16
31	482117	Weight Kit (Items 20, 21, 23)