



2021 X3 Turbo RR Ultimate Shift-Tek Clutch Kits

SKU(s): ST-2021RR 3R-91 (402FC0049), ST-2021RR 3R-93, (402FC0050), ST-2021RR 4X 100, 5X85 (402FC0051) DM 320 (402FC0052)

SHIFT-TEK ADVANCED CLUTCH KIT PART NUMBER	EVP TUNE	ENGINE POWER LEVEL	USE	PRIMARY SPRING	WEIGHTS	SECONDARY SPRING	HELIX	HELIX HOLE POSITION	SPRING ROTATION
Stock (402FC0049)	Stock	205HP	SAND OR TRAIL	2400 RPM ORANGE Spring	3 Black 3 Gold	Purple EVP	EVP 41-52	5	-1 from 0
3R-91 (402FC0049)	2021 Turbo RR Stage 3R-91	205-220 HP	SAND OR TRAIL	2400RPM ORANGE Spring	3 Black 3 Gold	Purple EVP	EVP 41-52	5	+1 from 0
3R-93 (402FC0050)	2021 Turbo RR Stage 3R-93	220- 230HP	SAND OR TRAIL	2400RPM ORANGE Spring	4 Black 2 Gold	Purple EVP	EVP 41-52	5	-1 from 0
4X100 (402FC0051)	2021 Turbo RR Stage 4 X100	230-250 HP	SAND OR TRAIL	2400RPM ORANGE Spring	6 Black	Purple EVP	EVP 41-52	5	-1 from 0
5X85 (402FC0051)	2021 Turbo RR Stage 5 X85	250-260 HP	SAND OR TRAIL	2400RPM ORANGE Spring	6 Black	Purple EVP	EVP 41-52	5	-1 from 0
DM 320 (402FC0052)	2021 Turbo RR DM 2.0 320HP	320HP	SAND OR TRAIL	2400RPM ORANGE Spring	4 Black 2 Adjustable	Stock	EVP 35-45	4	-1 from 0

-Stock Turbo Operating RPM: 8100

-Dynomite Turbo Operating RPM: 8400



Clutch Weights Removal and Installation Without Removing Primary Clutch

- Step 1:** Remove clutch cover and drive belt.
- Step 2:** For OEM cam arm removal, use a T25 Torx bit on one end of the pin and an 8mm socket on the other and remove the nut.
- Step 3:** Remove the pin.
- Step 4:** Use a screwdriver to open the sheaves and a magnet to retrieve the cam arm SEE PICTURES BELOW– be careful to save the washers that are installed on both sides of the arm – these will be needed if you ever use the stock weights again. They are NOT needed for the installation of the EVP weights.
- Step 5:** To install the new cam arms, slide an arm into the location where the previous arm was installed. Use a magnet to position the arm so the pin can be reinstalled. Reinstall nut onto pin.



Removing the Primary Clutch & Using the Service Tool

- Step 1:** Remove clutch cover and CVT drive belt.
- Step 2:** Remove primary bolt using a 22mm socket. Remove primary clutch bolt.
- Step 3:** Use a primary clutch removal bolt and remove the clutch, move to a clean workspace.

Step 4: Place clutch puller bolt into the primary clutch, hand tighten until its 1 1/2" from the clutch housing. **NOTE:** Put anti-seize on the top of the bolt. This will help NOT damaging the head.

Step 5: Place the service tool onto the primary, hand tighten (6) M6 Allen screws into the clutch basket. Hand tighten the service tool bolt into the clutch until it hits the head of the clutch puller bolt, which has anti-seize on the head. (Figure 1)

Step 6: With an impact and 24mm socket, tighten down the service tool bolt until you hear it pop. This is removing the basket of the clutch from the stationary sheave.



Step 7: Remove the spider from the basket, keep all (6) rubber caps. (Figure 2)

Step 8: Remove the basket from the stationary sheave, and place into a clutch compression tool.



Figure 1



Figure 2

Step 9: With a sharpie, draw an alignment mark from the spring cap to the spider. This will ensure proper alignment when reassembling. (Figure 3)

Step 10: With a T-30 Torx, loosen all (6) bolts securing the spring cap.

Step 11: Loosen the clutch compression tool. Remove spring cap and primary spring.

Step 12: Blow out the primary basket with compressed air. With green scotch brite pads, clean the inner surfaces of both sheaves. Whip down with a clean rag and brake cleaner. (Figure 4)



Figure 3

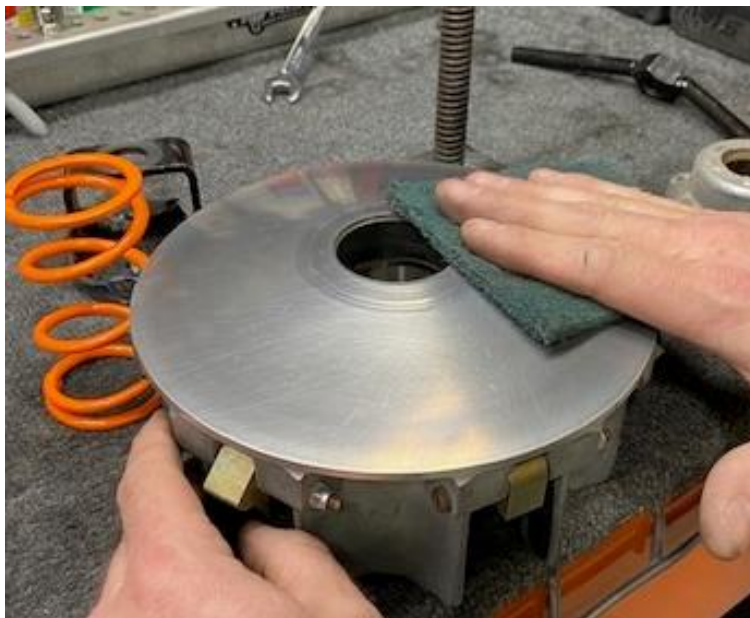


Figure 4

Removing and Installing Weights

Step 1: With an 8mm socket and T-25 Torx, loosen one weight pin at a time.

Step 2: Remove the weight pin, remove the weight. **NOTE:** OEM weights have (2) bushings, keep these if you ever want to reuse the OEM weights. They are NOT needed for EVP weights. (Figure 5)



Figure 5

Step 3: Install the new EVP weight and reuse the OEM pin and Nylock nut. Tighten down till the pin is snug, we want the weights to move effortlessly.

Step 4: Do step 1-3 for the rest of the weights.

NOTE: Primary clutches need to be perfectly aligned. If you place a gold weight in the clutch, across from it needs to be a gold weight. Same for black weights.

FOR EXAMPLE:

ST-2021RR 3R-91

- 3 Black, 3 Gold
- The EVP cam arms need to be staged as 1 black, 1 gold, 1 black, 1 gold, 1 black, 1 gold.

ST-2021RR 3R-93:

- 4 Black, 2 Gold
- The EVP cam arms need to be staged as 2 black, 1 gold, 2 black, 1 gold.

ST-2021RR X100 & X85

- 6 Black
- The EVP cam arms need to be all switched out with 6 black weights.

Reassembling the Primary Clutch

Step 1: Place the basket back into the clutch compression tool. Place the EVP Orange primary spring into the clutch and spring cap. Compress the spring cap and make sure the alignment marks line up. (Figure 6)



Figure 6



Figure 7

Step 2: Use Blue Loctite on (6) T-30 Torx securing the spring cover. Torque to 9Nm or 80 in-lb.

Step 3: Remove the basket from the clutch compression tool, place basket onto stationary sheave.

Step 4: Place the spider into the basket, make sure all rubber caps are installed before seating. (See figure 7).

Step 5: Place the clutch puller bolt back into the primary clutch and tighten down with a 19mm wrench. This will press the basket back onto the stationary sheave. Remove bolt and install the primary clutch back onto the machine.

Step 6: Torque the primary bolt (22mm) down 89 ft-lb. If you are reusing the OEM bolt, torque the primary down to 89 ft-lb and drive the car 100-200 yards and hit 5,000rpms. Retorque the primary bolt to 89 ft lb. Do this three times.

NOTE: Can Am OEM primary bolts are made for one time use, we recommend our EVP XR Series primary clutch bolt. **P/N 404FC0018**



CAM ARM BREAKDOWN

ST-2021RR 3R-91

- 3 Black, 3 Gold
- The EVP cam arms need to be staged as 1 black, 1 gold, 1 black, 1 gold, 1 black, 1 gold.

ST-2021RR 3R-93:

- 4 Black, 2 Gold
- The EVP cam arms need to be staged as 2 black, 1 gold, 2 black, 1 gold.

ST-2021RR X100 & X85

- 6 Black,
- The EVP cam arms need to be all switched out with 6 black weights

ST-2021 RR DM320

- 4 Black, 2 Adjustable
- The EVP cam arms need to be staged as 2 black, 1 adjustable, 2 black, 1 adjustable
- The adjustable weights will need (2) 3/16"ss set screws on the tip side of each weight. Leave the heel side empty.

Stock Turbo Operating RPM: 8100

Dynomite Turbo Operating RPM: 8400



SHIFT TEK HELIX INSTALL

- Step 1:** Using the 17mm socket remove the secondary clutch from the vehicle.
- Step 2:** Use the spring compression tool and align the clutch so you can get to the fasteners securing the helix.
- Step 3:** Use 13mm socket to take 3 fasteners out of the helix and carefully loosen the spring compression tool to remove the stock helix
- Step 4:** Install new helix with the billet end cap at -45 adjustment. This will make installing the helix easier as there will be less rotational tension. Insert the spring tab on the **#5 hole** in the end cap and make sure the other end of the spring is properly seated in the hole on the clutch sheave. Use the clutch service tool to compress the spring while making sure the helix is rotated clockwise so the helix ramp goes over the clutch roller. (See picture to right)



Roller

Ramp



- Step 5:** Install the fasteners securing the helix in place using red Loctite.
- Step 6:** Reinstall the clutch on the vehicle and torque secondary bolt to 52 ft-lbs.
- Step 7:** Using the Can Am belt changing tool with EVP non-marring tip reinstall belt, spin secondary to get belt back to the top of the clutch.
- Step 8:** Before removing the belt changing tool, apply a small amount of pressure to EVP helix cover. Put the EVP sheave holder between the fins on the secondary clutch and use a screwdriver to apply light pressure on the helix cover.
- Step 9:** Loosen the (3) 6mm Allen screws enough to clear the machined groove.
- Step 10:** Apply pressure clockwise to the helix cover to desired tension. Use the 6mm Allen to tighten the screws back down. (See picture to right)



EVP sheave holder.

Screwdriver used for changing the tension on the secondary spring.

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Note: This product is exempt from the emission standards and related requirements of 40 C.F.R. § 1051 as provided by 40 C.F.R. § 1051.620, and California law [e.g., vehicle code §§ 27156 and 38391]. This product is sold only for use in connection with EPA certified, purpose-built, nonroad vehicles used solely for closed course, nonroad competition/racing and not used for any recreational purpose or on public highways or right of ways maintained by and open to the public. This product is sold only in connection with machines that do not fall under state and/or federal noise or emission standards/regulations. Purchasers who/that purchase this product represent and warrant that the product is purchased only in connection with EPA -certified, emission-regulations-exempt and noise-regulations-exempt competition/racing vehicles as interpreted under applicable state and/or federal law. Questions: Call Evolution Powersports at (715) 247-3862.