INSTALLATION AND TUNING GUIDE

DEFCOM 7 BASE OR DEFCOM 7 PRO SETUP CHART for CAN AM X3 135HP AND 120HP WITH PDRIVE INSTALLED

***PART NUMBER(s)**: DEFCOM 7*

WE ARE NOT RESPONSIBLE FOR ANY DAMAGES.
BE VERY CAREFUL TO NOT DAMAGE YOUR CLUTCH DURING THIS PROCESS.

TOOLS NEEDED

- 1/2" Drive Impact Gun
- 22mm or 7/8" - Wrench
- 1/2" Torque Wrench
- 24mm or 15/16" - 1/2" Drive Impact Socket
- 6mm Allen Wrench
- T40 Torx
- T30 Torx
- T25 Torx
- KWI MAVTOOL V2 clutch tool set or equivalent
- Clutch Belt removal tool
- Blue Locktite
- Vorhees Vise or equivalent primary clutch holder



Your weights may have different hole configurations than the one shown.

Helix and spring included in PRO package only



NOTE: No component marking is required before disassembly.

ESTIMATED INSTALL TIME

75 MINUTE

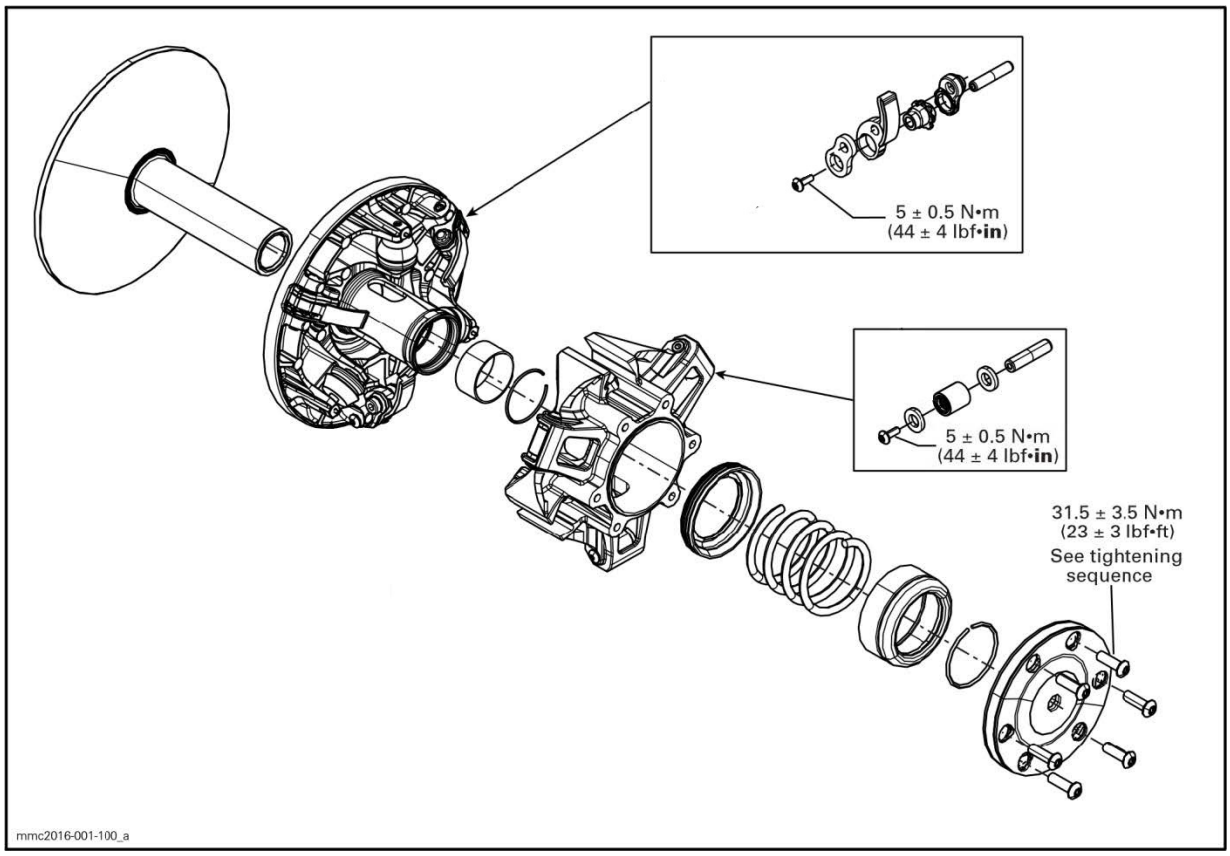
Primary clutch removal and installation

1) Remove belt box cover. (T30 Torx)
2) Remove CVT belt. (Clutch Belt removal tool)
3) Remove primary clutch bolt. (22mm - 1/2" Drive Impact Socket)
4) Thread primary clutch puller all the way in by hand and tighten with impact wrench until the primary clutch pops off of the shaft. (KWI PUL1 clutch puller or equivalent)
5) Remove Primary clutch from vehicle.
6) Properly calibrate the clutch weights with screws in accordance with the KWI Setup Chart for your vehicle.
7) Clean crankshaft and primary clutch taper with brake cleaner or acetone to remove all oil, grease and dust.
8) Install your primary clutch, secure with primary clutch bolt and torque to bolt manufacturer specs. (Use KWI Vorhees Vise or equivalent to hold primary while torquing primary bolt (NEW BRP OEM bolt 89+/-6 ft/lb)(KWI 630 bolt 115+/-6 ft/lb))

Primary clutch disassembly and reassembly (PDrive)

Requires KWI V2 tool kit or equivalent
***Reference KWI V2 tool kit instructions
for detailed instructions on use and
disassebly)*****

1) Remove primary clutch. (See "Removing and installing primary clutch")
2) Thread clutch puller all the way in by hand and then back out 4 turns.
3) Remove 6 each Torx screws holding governor cup cap to governor cup.(T40 Torx or 13mm socket)
4) Put Moly grease on the top of the primary puller and on the threads of puller cup bolt.
5) Insert puller cup into puller plate and secure to governor cup cap using 6 each M8 bolts.(6mm Allen Wrench)
6) Tighten puller cup bolt until governor cup torque flange plate pops off its taper. (STOP TIGHTENING AS SOON AS IT POPS)(1/2" Drive Impact Gun)(24mm or 15/16" - 1/2" Drive Impact Socket)
7) Remove puller cup, puller plate clutch puller and governor cup torque flange plate.
8) Place circlip remover/installer on top of spring retainer, install threaded rod through circlip installer/ remover and screw into clutch approx 10 turns. Turn nut in to compress spring and take tension off of circlip. Remove circlip. Turn nut out to relax spring tension. Remove threaded rod, circlip installer/ remover and disassemble clutch as required. (22mm or 7/8" - Wrench)
9) Reassemble in reverse order. Use KWI Vorhees Vise or equivalent to hold primary while torquing primary bolt (BRP OEM bolt 89+/-6 ft/lb)(KWI 630 bolt 115+/-6 ft/lb) . All tapers will lock upon clutch installation to crankshaft.



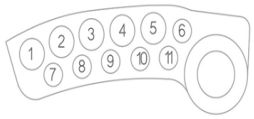
RPM ADJUSTMENT

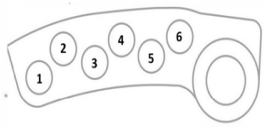
Removing and Installing the KWI DEFCOM7 weights

1) Remove CVT belt. (Clutch Belt removal tool)
2) Remove 3 cam arm pin retaining screws. (T25 Torx)
3) Remove cam arm pins. (KWI "The Hammer" Pin Removal Tool and "THE TIP" 5mm extractor or equivalent)
4) Remove the cam arms. You may need to push in on the outer sheave a bit to allow the arms to be slid out.
(preferred method is to use the primary opening tool included in our KWI V2 tool kit)
5) Properly configure the screws in the DEFCOM7 cam arms for your vehicle
using the setup chart.
6) Install the DEFCOM7 cam arms in your clutch and secure with the pin and pin retaining screw, torque to specs in torque chart. You may need to push in on the outer sheave a bit to allow the arms to be slid in.
(preferred method is to use the primary opening tool included in our KWI V2 tool kit)

DEFCOM 7 BASE OR DEFCOM 7 PRO SETUP CHART for CAN AM X3 135HP AND 120HP WITH PDRIVE INSTALLED

YOU MAY HAVE EITHER OF THESE VERSIONS OF WEIGHTS IN YOUR KIT. BOTH VERSIONS OFFER THE SAME PERFORMANCE AND USE THE SAME SETUP CHART





(Identical cars may have HP differences of up to 10 HP due to engine manufacturing tolerances so clutch kit calibration adjustments are necessary in most cases)

TUNE	TIRE SIZE	SCREW CONFIGURATION	Primary spring	Secondary spring / Helix / hole	Belt Recommendation	Full throttle RPM at 50mph
STOCK	STOCK	1,2	OEM	**OEM HELIX -** BLK/GRN spring hole #4 (30 degrees wrap) **(PRO) KWI DR3 GROOVIX-** BLK/GRN spring hole #2 (35 degrees wrap)	BRP 422280652 Gates 48R4289 Gboost WBB652RS OR WBB383	7900 RPM +/- 100 RPM
	32"-35"	1	KWI Blk/Yelllow	**OEM HELIX -** BLK/GRN spring hole #3 (60 degrees wrap) **(PRO) KWI DR3 GROOVIX -** BLK/GRN spring hole #3 (70 degrees wrap)		
91/93 OCTANE TUNE	STOCK	1,2,3,4,5,6	OEM	**OEM HELIX -** BLK/GRN spring hole #4 (30 degrees wrap) **(PRO) KWI DR3 GROOVIX-** OEM secondary spring in hole #2 (35 degrees wrap)		
	32"-35"	1,2,3,4	KWI Blk/Yelllow			

DEFCOM 7 BASE / 7 PRO CLUTCH KIT PARTS INCLUDED

PART DESCRIPTION	QTY	OEM PART #	OUR PART #
DEFCOM WEIGHT	3	—	DEFCOM7
WEIGHT SCREW PACK	3	—	SCREWPACK
BLK/YEL PRIMARY SPRING	1	—	BLK/YEL
DR3 GROOVIX (DEFCOM7 PRO ONLY)	1	—	DR3
BLK/GRN SECONDARY SPRING (DEFCOM7 PRO ONLY)	1	—	BLK/GRN

LIABILITY STATEMENT
As defined by the Magnuson-Moss warranty Act. Do not install any performance parts or services unless you have the technical ability to properly set-up the entire machine to compensate for the installation of those parts. The necessary work and expertise needed to install different product varies. Instructions, where provided, are given to assist in installation only; they are not a substitute for mechanical experience in setting up racing vehicles. References to performance gains, reliability, ease of installation, etc. are based on our and outside customer's experiences. This is not a guarantee of similar performance in every installation. While we sell proven products, in the end it's up to the individual to make the most of the product. Kris Werth Inc. d.b.a. KWI Clutching or its associated corporations are not responsible for any personal or property damages caused by this product. Kris Werth Inc. d.b.a. KWI Clutching or its associated corporations assumes no responsibility for damage or injury of any kind because of misuse, improper installation or improper application of any parts in anyway, by any person. Contact your local dealer to schedule installation of this kit if you are not a qualified ATV or UTV mechanic. USE OF PRODUCTS. BUYER SHALL USE, AND REQUIRE ITS EMPLOYEES, CONTRACTORS, AND AGENTS TO USE, ALL AVAILABLE SAFETY PRECAUTIONS, IN ADDITION TO ANY SPECIFICALLY SET FORTH IN ANY MANUALS, MATERIAL SAFETY DATA SHEETS, TECHNICAL DATA SHEETS, INSTRUCTION SHEETS, IF ANY, FURNISHED BY SELLER (OR AVAILABLE FROM RAW MATERIAL SUPPLIERS) RELATING TO SELLER'S PRODUCTS. IF BUYER DOES NOT RECEIVE ANY REQUIRED MATERIAL SAFETY DATA SHEETS FOR ANY PRODUCT FROM SELLER, BUYER WILL REQUEST THEM FROM SELLER. IF BUYER FAILS TO STRICTLY OBSERVE EACH AND EVERY ONE OF THE OBLIGATIONS SET FORTH IN THIS SECTION 22 OR IF BUYER'S USE OF ANY OF SELLER'S PRODUCTS IS IN VIOLATION OF ANY STANDARD OR RULE OF THE AMERICAN NATIONAL STANDARDS INSTITUTE OR OCCUPATIONAL HEALTH AND SAFETY ACT, OR OTHER APPLICABLE WORKPLACE LAW, REGULATION, OR STANDARD, BUYER WILL INDEMNIFY, DEFEND, AND HOLD HARMLESS SELLER AND SELLER AND ITS EMPLOYEES, OFFICERS, DIRECTORS, AGENTS, AFFILIATES, SUCCESSORS AND ASSIGNS FROM AND AGAINST ANY AND ALL CLAIMS, DEMANDS, DAMAGES, ACTIONS, AND CAUSES OF ACTION, AS WELL AS ANY AND ALL LIABILITY, LOSS, OR EXPENSE OF ANY KIND, INCLUDING REASONABLE ATTORNEYS' FEES ARISING FROM, CONNECTED WITH OR IN ANY WAY PERTAINING TO ANY SUCH FAILURE BY BUYER.
NOTIFICATION. BUYER SHALL NOTIFY SELLER PROMPTLY, AND IN ANY EVENT WITHIN 30 DAYS, AFTER ANY ACCIDENT OR FAILURE INVOLVING SELLER'S PRODUCTS THAT RESULTS IN PERSONAL INJURY OR DAMAGE TO PROPERTY AND SHALL COOPERATE FULLY WITH SELLER IN INVESTIGATING AND DETERMINING CAUSES OF SUCH ACCIDENT OR FAILURE. ATTORNEYS' FEES AND COSTS. BUYER WILL PAY SELLER'S REASONABLE ATTORNEYS' FEES AND OTHER COSTS AND EXPENSES FOR ANY LEGAL OR EQUITABLE ACTION UNDERTAKEN BY SELLER TO ENFORCE THESE TERMS OR THE PROVISIONS OF ANY SUPPLY AGREEMENT.

INSTALLATION AND TUNING GUIDE

DEFCOM 7 CLUTCH KIT FOR DEFENDER 700 AND COMMANDER 700

***PART NUMBER(s)**: DEFCOM 7*

WE ARE NOT RESPONSIBLE FOR ANY DAMAGES.
BE VERY CAREFUL TO NOT DAMAGE YOUR CLUTCH DURING THIS PROCESS.

TOOLS NEEDED

- 1/2" Drive Impact Gun
- 22mm or 7/8" - Wrench
- 1/2" Torque Wrench
- 24mm or 15/16" - 1/2" Drive Impact Socket
- 6mm Allen Wrench
- T40 Torx
- T30 Torx
- T25 Torx
- KWI MAVTOOL V2 clutch tool set or equivalent
- Clutch Belt removal tool
- Blue Locktite
- Vorhees Vise or equivalent primary clutch holder



NOTE: No component marking is required before disassembly.

ESTIMATED INSTALL TIME

75 MINUTE

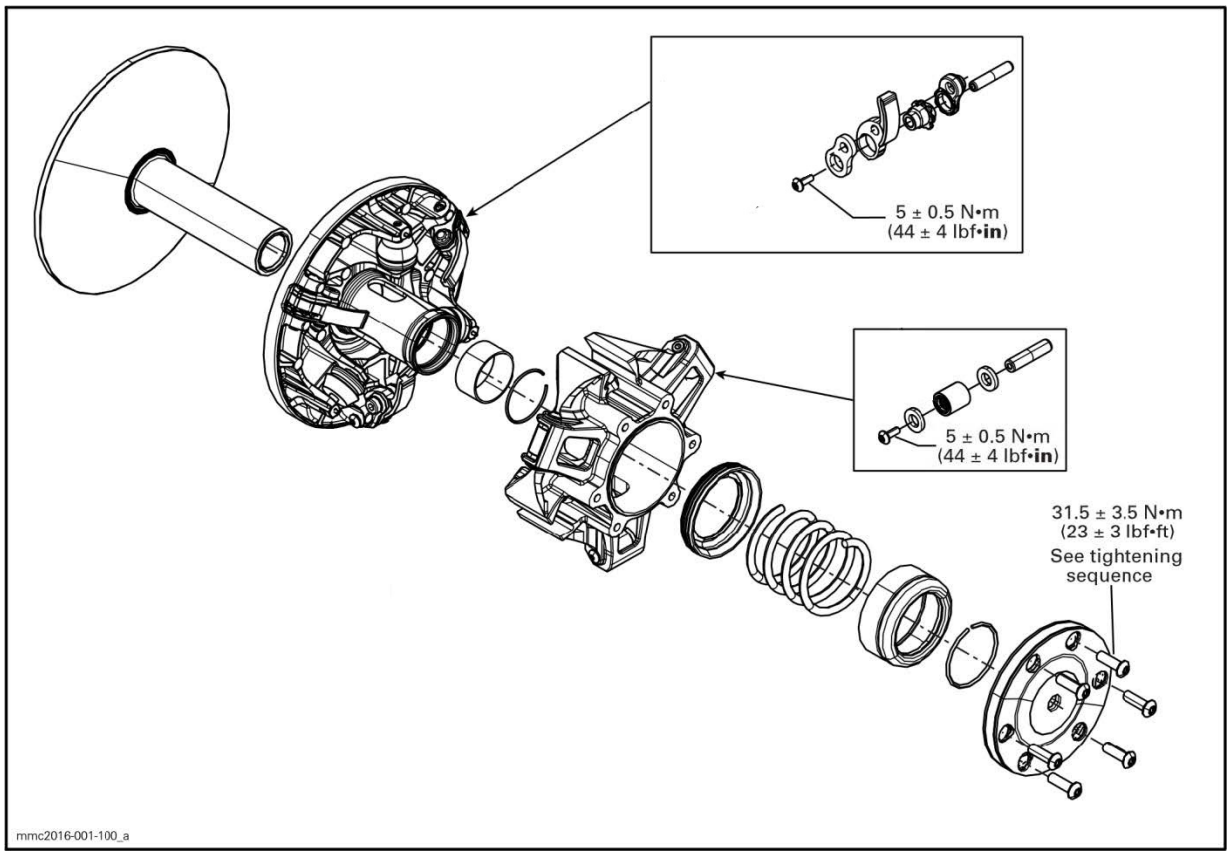
Primary clutch removal and installation

1) Remove belt box cover. (T30 Torx)
2) Remove CVT belt. (Clutch Belt removal tool)
3) Remove primary clutch bolt. (22mm - 1/2" Drive Impact Socket)
4) Thread primary clutch puller all the way in by hand and tighten with impact wrench until the primary clutch pops off of the shaft. (KWI PUL1 clutch puller or equivalent)
5) Remove Primary clutch from vehicle.
6) Properly calibrate the clutch weights with screws in accordance with the KWI Setup Chart for your vehicle.
7) Clean crankshaft and primary clutch taper with brake cleaner or acetone to remove all oil, grease and dust.
8) Install your primary clutch, secure with primary clutch bolt and torque to bolt manufacturer specs. Use KWI Vorhees Vise or equivalent to hold primary while torquing primary bolt (BRP OEM bolt 89+/-6 ft/lb)(KWI 630 bolt 115+/-6 ft/lb)

Primary clutch disassembly and reassembly (PDrive)

Requires KWI V2 tool kit or equivalent
***Reference KWI V2 tool kit instructions
for detailed instructions on use and
disassebly)*****

1) Remove primary clutch. (See "Removing and installing primary clutch")
2) Thread clutch puller all the way in by hand and then back out 4 turns.
3) Remove 6 each Torx screws holding governor cup cap to governor cup.(T40 Torx or 13mm socket)
4) Put Moly grease on the top of the primary puller and on the threads of puller cup bolt.
5) Insert puller cup into puller plate and secure to governor cup cap using 6 each M8 bolts.(6mm Allen Wrench)
6) Tighten puller cup bolt until governor cup torque flange plate pops off its taper. (STOP TIGHTENING AS SOON AS IT POPS)(1/2" Drive Impact Gun)(24mm or 15/16" - 1/2" Drive Impact Socket)
7) Remove puller cup, puller plate clutch puller and governor cup torque flange plate.
8) Place circlip remover/installer on top of spring retainer, install threaded rod through circlip installer/ remover and screw into clutch approx 10 turns. Turn nut in to compress spring and take tension off of circlip. Remove circlip. Turn nut out to relax spring tension. Remove threaded rod, circlip installer/ remover and disassemble clutch as required. (22mm or 7/8" - Wrench)
9) Reassemble in reverse order. Use KWI Vorhees Vise or equivalent to hold primary while torquing primary bolt (BRP OEM bolt 89+/-6 ft/lb)(KWI 630 bolt 115+/-6 ft/lb) . All tapers will lock upon clutch installation to crankshaft.



RPM ADJUSTMENT

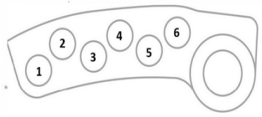
Removing and Installing the KWI DEFCOM7 weights

1) Remove CVT belt. (Clutch Belt removal tool)
2) Remove 3 cam arm pin retaining screws. (T25 Torx)
3) Remove cam arm pins. (KWI "The Hammer" Pin Removal Tool and "THE TIP" 5mm extractor or equivalent)
4) Remove the cam arms. You may need to push in on the outer sheave a bit to allow the arms to be slid out.
(preferred method is to use the primary opening tool included in our KWI V2 tool kit)
5) Properly configure the screws in the DEFCOM7 cam arms for your vehicle
using the setup chart.
6) Install the DEFCOM7 cam arms in your clutch and secure with the pin and pin retaining screw, torque to specs in torque chart. You may need to push in on the outer sheave a bit to allow the arms to be slid in.
(preferred method is to use the primary opening tool included in our KWI V2 tool kit)

DEFCOM 7 BASE SETUP CHART for DEFENDER 700, COMANDER 700

YOU MAY HAVE EITHER OF THESE VERSIONS OF WEIGHTS IN YOUR KIT. BOTH VERSIONS OFFER THE SAME PERFORMANCE AND USE THE SAME SETUP CHART





(Identical cars may have HP differences of up to 10 HP due to engine manufacturing tolerances so clutch kit calibration adjustments are necessary in most cases)

TUNE	TIRE SIZE	SCREW CONFIGURATION	Primary spring	Secondary spring / Helix / hole	Belt Recommendation	Full throttle RPM at 50mph
STOCK	STOCK	*NONE*	OEM	OEM	BRP 422280652 Gates 48R4289 Gboost WBB652RS OR WBB383	6700 RPM +/- 100 RPM
	32"-35"		KWI Blk/Yelllow			
91/93 OCTANE TUNE	STOCK	1,2,3	OEM			
	32"-35"	1,2	KWI Blk/Yelllow			
RACE GAS / E85 TUNE	STOCK	1,2,3,4	OEM			
	32"-35"	1,2,3	KWI Blk/Yelllow			

DEFCOM 7 CLUTCH KIT PARTS INCLUDED

	PART DESCRIPTION	QTY	OEM PART #	OUR PART #
	DEFCOM7ADJUSTABLE CAM ARM	3	—	DEFCOM7
	BLACK / YELLOW PRIMARY SPRING	1	—	BLK
	SCREW PACK	1	—	SCRWPK

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INSTALLATION AND TUNING GUIDE

DEFCOM 7 BASE AND 7 PRO CLUTCH KIT FOR DEFENDER HD10 W/ PDRIVE

***PART NUMBER(s)**: DEFCOM 7 BASE / 7 PRO*

TOOLS NEEDED

- 1/2" Drive Impact Gun
- 22mm or 7/8" - Wrench
- 1/2" Torque Wrench
- 24mm or 15/16" - 1/2" Drive Impact Socket
- 6mm Allen Wrench
- T40 Torx
- T30 Torx
- T25 Torx
- KWI MAVTOOL V2 clutch tool set or equivalent
- Clutch Belt removal tool
- Blue Locktite
- Vorhees Vise or equivalent primary clutch holder



Your weights may have different hole configurations than the one shown.

Helix and spring included in PRO package only



ESTIMATED INSTALL TIME

75 MINUTES

NOTE: No component marking is required before disassembly.

WE ARE NOT RESPONSIBLE FOR ANY DAMAGES. BE VERY CAREFUL TO NOT DAMAGE YOUR CLUTCH DURING THIS PROCESS.

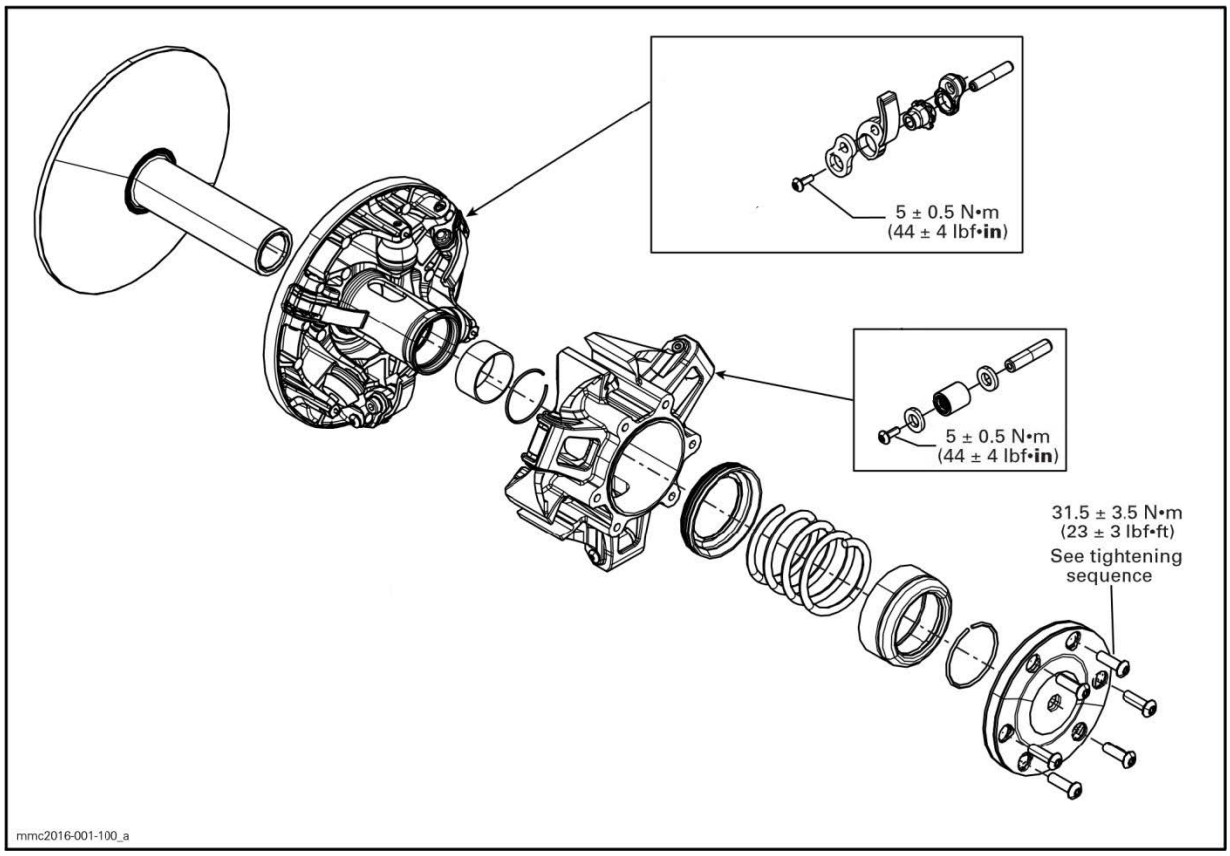
Primary clutch removal and installation

1) Remove belt box cover. (T30 Torx)
2) Remove CVT belt. (Clutch Belt removal tool)
3) Remove primary clutch bolt. (22mm - 1/2" Drive Impact Socket)
4) Thread primary clutch puller all the way in by hand and tighten with impact wrench until the primary clutch pops off of the shaft. (KWI PUL1 clutch puller or equivalent)
5) Remove Primary clutch from vehicle.
6) Properly calibrate the clutch weights with screws in accordance with the KWI Setup Chart for your vehicle.
7) Clean crankshaft and primary clutch taper with brake cleaner or acetone to remove all oil, grease and dust.
8) Install your primary clutch, secure with primary clutch bolt and torque to bolt manufacturer specs. Use KWI Vorhees Vise or equivalent to hold primary while torquing primary bolt (BRP OEM bolt 89+/-6 ft/lb)(KWI 630 bolt 115+/-6 ft/lb)

Primary clutch disassembly and reassembly (PDrive)

Requires KWI V2 tool kit or equivalent
***Reference KWI V2 tool kit instructions
for detailed instructions on use and
disassebly)*****

1) Remove primary clutch. (See "Removing and installing primary clutch")
2) Thread clutch puller all the way in by hand and then back out 4 turns.
3) Remove 6 each Torx screws holding governor cup cap to governor cup.(T40 Torx or 13mm socket)
4) Put Moly grease on the top of the primary puller and on the threads of puller cup bolt.
5) Insert puller cup into puller plate and secure to governor cup cap using 6 each M8 bolts.(6mm Allen Wrench)
6) Tighten puller cup bolt until governor cup torque flange plate pops off its taper. (STOP TIGHTENING AS SOON AS IT POPS)(1/2" Drive Impact Gun)(24mm or 15/16" - 1/2" Drive Impact Socket)
7) Remove puller cup, puller plate clutch puller and governor cup torque flange plate.
8) Place circlip remover/installer on top of spring retainer, install threaded rod through circlip installer/ remover and screw into clutch approx 10 turns. Turn nut in to compress spring and take tension off of circlip. Remove circlip. Turn nut out to relax spring tension. Remove threaded rod, circlip installer/ remover and disassemble clutch as required. (22mm or 7/8" - Wrench)
9) Reassemble in reverse order. Use KWI Vorhees Vise or equivalent to hold primary while torquing primary bolt (BRP OEM bolt 89+/-6 ft/lb)(KWI 630 bolt 115+/-6 ft/lb) . All tapers will lock upon clutch installation to crankshaft.

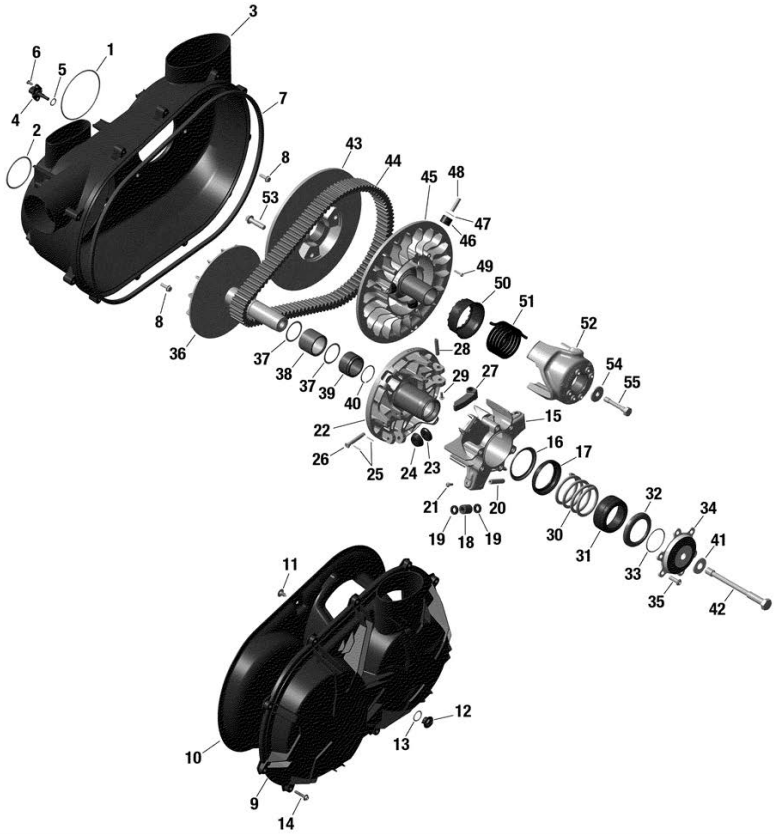


Removing and installing secondary clutch

1) Remove belt box cover. (T30 Torx)
2) Remove CVT belt. (Clutch Belt removal tool)
3) Remove secondary clutch bolt. (17mm or 7/8" - 1/2" Drive Socket)
4) Secondary clutch will slide off shaft.
5) (KWI Float Mod) Reinstall secondary clutch in accordance with the KWI Fload Mod Instructions.
6) (No KWI Float Mod) Align splines and slide secondary clutch on shaft.
7) Use KWI Vorhees Vise or equivalent to hold secondary clutch while torquing the secondary clutch bolt to bolt manufacturer specs.(17mm -1/2" Drive Socket)(Torque Wrench) Use a long 1/4" or 3/8" extension thru the helix and spring to hold secondary while torquing.
8) Reinstall CVT belt and belt box cover.

Secondary clutch disassembly and reassembly

1) Remove secondary clutch. (See "Removing and installing secondary clutch")
2) Clamp welded nut end of threaded rod in a suitable vise. Place puller cup (without puller cup bolt) over threaded rod.
3) Place secondary clutch over threaded rod with helix facing down Turn nut in to compress helix slightly and take tension off of helix bolts. Remove 3 helix bolts. While holding sheaves from turning (by hand) and helix from turning (with a long 1/4 or 3/8 extension inserted thru helix and spring) turn nut out to relax spring tension. Disassemble clutch as required. (22mm or 7/8" - Wrench)
4) Install the secondary moveable and fixed sheaves together on the threaded rod with the helix
5) Install the KWI GROOVIX with the spring clocked as specified by your clutch kit manufacturer. **Hole #1 is marked by a dot then count up in a clockwise direction per the photo. The GROOVIX helix uses equally spaced holes and does not correlate to the OEM holes.** Hole #2 in the GROOVIX is approx 40 degrees wrap using the OEM or KWI Dark Blue/Pink spring and is the standard setting. Hole #6 in the GROOVIX is approx 40 degrees wrap using the KWI SBL spring and is the standard setting.
6) Install the large compression washer then nut on the threaded rod until it starts to compress the spring.
7) Insert a long 1/4 or 3/8 extension inserted thru helix and spring. Hold the sheaves from turning while you rotate the helix CLOCKWISE until the legs clear the rollers. Tighten the threaded rod nut and compress the helix spring.
8) Install the 3 helix bolts using BLUE Locktite and torque to 40 Ft/Lbs.





RPM ADJUSTMENT

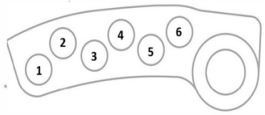
Removing and Installing the KWI DEFCOM weights

1) Remove CVT belt. (Clutch Belt removal tool)
2) Remove 3 cam arm pin retaining screws. (T25 Torx)
3) Remove cam arm pins. (KWI "The Hammer" Pin Removal Tool and "THE TIP" 5mm extractor or equivalent)
4) Remove the cam arms. You may need to push in on the outer sheave a bit to allow the arms to be slid out.
(preferred method is to use the primary opening tool included in our KWI V2 tool kit)
5) Properly configure the screws in the DEFCOM cam arms for your vehicle
using the setup chart.
6) Install the DEFCOM cam arms in your clutch and secure with the pin and pin retaining screw, torque to specs in torque chart. You may need to push in on the outer sheave a bit to allow the arms to be slid in.
(preferred method is to use the primary opening tool included in our KWI V2 tool kit)

DEFCOM 7 BASE OR DEFCOM 7 PRO SETUP CHART for DEFENDER HD10 WITH PDRIVE INSTALLED

YOU MAY HAVE EITHER OF THESE VERSIONS OF WEIGHTS IN YOUR KIT. BOTH VERSIONS OFFER THE SAME PERFORMANCE AND USE THE SAME SETUP CHART





(Identical cars may have HP differences of up to 10 HP due to engine manufacturing tolerances so clutch kit calibration adjustments are necessary in most cases)

TUNE	TIRE SIZE	SCREW CONFIGURATION	Primary spring	Secondary spring / Helix / hole	Belt Recommendation	Full throttle RPM at 50mph
STOCK	STOCK	1,2,3	OEM	**OEM HELIX -** OEM secondary spring in hole #4 (30 degrees wrap) **(PRO) KWI DR3 GROOVIX-** BLK/GRN spring hole #2 (35 degrees wrap)	BRP 422280652 Gates 48R4289 Gboost WBB652RS OR WBB383	6700 RPM +/- 100 RPM
	32"-35"	1	KWI Blk/Yelllow	**OEM HELIX -** OEM secondary spring in hole #3 (60 degrees wrap) **(PRO) KWI DR3 GROOVIX -** BLK/GRN spring hole #3 (70 degrees wrap)		
91/93 OCTANE TUNE	STOCK	1,2,3,4,5	OEM	**OEM HELIX -** OEM secondary spring in hole #4 (30 degrees wrap) **(PRO) KWI DR3 GROOVIX-** OEM secondary spring in hole #2 (35 degrees wrap)		
	32"-35"	1,2,3	KWI Blk/Yelllow			
RACE GAS / E85 TUNE	STOCK	1,2,3,4,5,6	OEM			
	32"-35"	1,2,3,4	KWI Blk/Yelllow			

DEFCOM 7 BASE / 7 PRO CLUTCH KIT PARTS INCLUDED

PART DESCRIPTION	QTY	OEM PART #	OUR PART #
DEFCOM WEIGHT	3	—	DEFCOM7
WEIGHT SCREW PACK	3	—	SCREWPACK
BLK/YEL PRIMARY SPRING	1	—	BLK/YEL
DR3 GROOVIX (DEFCOM7 PRO ONLY)	1	—	DR3
BLK/GRN SECONDARY SPRING (DEFCOM7 PRO ONLY)	1	—	BLK/GRN

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NOTIFICATION. BUYER SHALL NOTIFY SELLER PROMPTLY, AND IN ANY EVENT WITHIN 30 DAYS, AFTER ANY ACCIDENT OR FAILURE INVOLVING SELLER'S PRODUCTS THAT RESULTS IN PERSONAL INJURY OR DAMAGE TO PROPERTY AND SHALL COOPERATE FULLY WITH SELLER IN INVESTIGATING AND DETERMINING CAUSES OF SUCH ACCIDENT OR FAILURE. ATTORNEYS' FEES AND COSTS. BUYER WILL PAY SELLER'S REASONABLE ATTORNEYS' FEES AND OTHER COSTS AND EXPENSES FOR ANY LEGAL OR EQUITABLE ACTION UNDERTAKEN BY SELLER TO ENFORCE THESE TERMS OR THE PROVISIONS OF ANY SUPPLY AGREEMENT.

INSTALLATION AND TUNING GUIDE

DEFCOM 7 BASE AND 7 PRO CLUTCH KIT FOR DEFENDER HD11

***PART NUMBER(s)**: DEFCOM 7 BASE / 7 PRO*

TOOLS NEEDED

- 1/2" Drive Impact Gun
- 22mm or 7/8" - Wrench
- 1/2" Torque Wrench
- 24mm or 15/16" - 1/2" Drive Impact Socket
- 6mm Allen Wrench
- T40 Torx
- T30 Torx
- T25 Torx
- KWI MAVTOOL V2 clutch tool set or equivalent
- Clutch Belt removal tool
- Blue Locktite
- Vorhees Vise or equivalent primary clutch holder



Your weights may have different hole configurations than the one shown.

Helix and spring included in PRO package only



ESTIMATED INSTALL TIME

75 MINUTES

NOTE: No component marking is required before disassembly.

WE ARE NOT RESPONSIBLE FOR ANY DAMAGES. BE VERY CAREFUL TO NOT DAMAGE YOUR CLUTCH DURING THIS PROCESS.

Primary clutch removal and installation

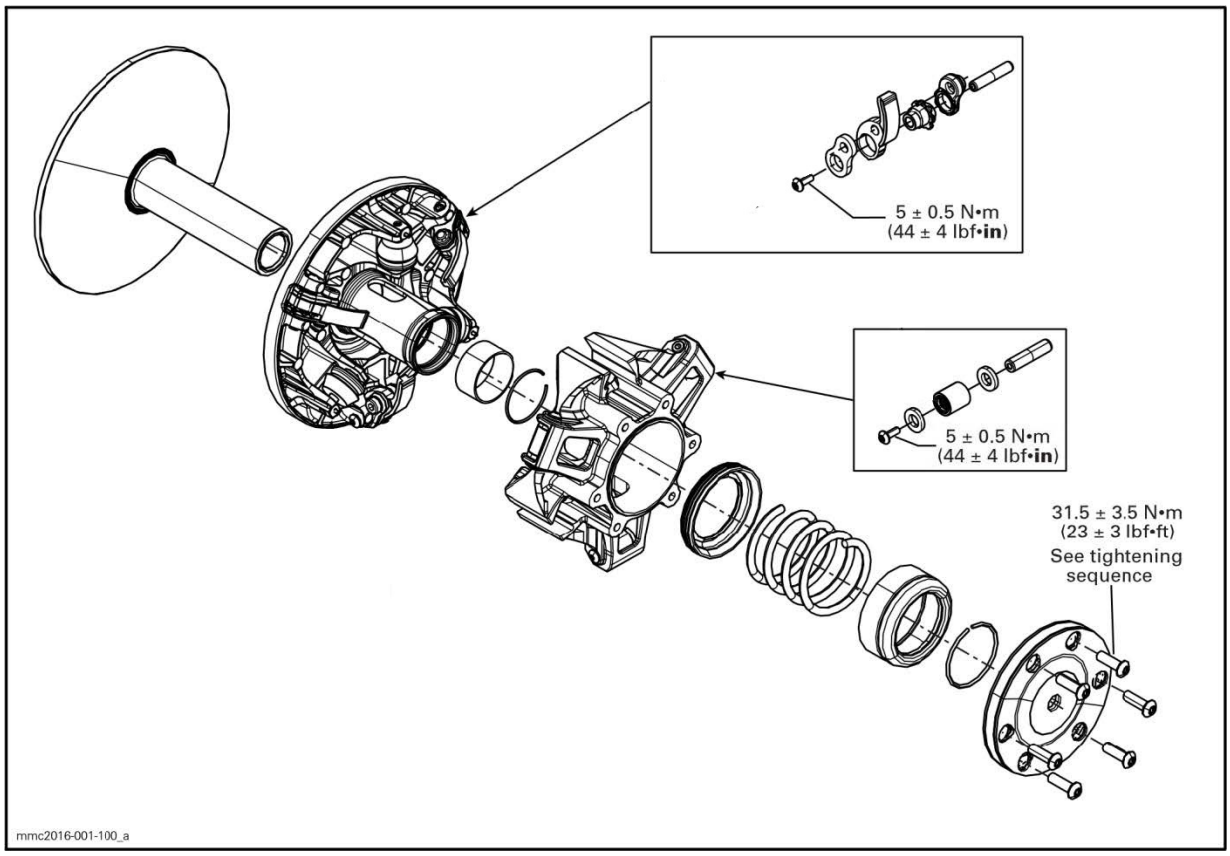
Important Note: THIS IS A PERFORMANCE CLUTCH KIT- If you're *not* looking for higher RPMs, aggressive performance, or top-speed gains—and prefer smoother engagement and lower-RPM drivability for work, towing, or trail cruising—the AO-P1 Cruiser Kit is a better fit for your setup.

1) Remove belt box cover. (T30 Torx)
2) Remove CVT belt. (Clutch Belt removal tool)
3) Remove primary clutch bolt. (22mm - 1/2" Drive Impact Socket)
4) Thread primary clutch puller all the way in by hand and tighten with impact wrench until the primary clutch pops off of the shaft. (KWI PUL1 clutch puller or equivalent)
5) Remove Primary clutch from vehicle.
6) Properly calibrate the clutch weights with screws in accordance with the KWI Setup Chart for your vehicle.
7) Clean crankshaft and primary clutch taper with brake cleaner or acetone to remove all oil, grease and dust.
8) Install your primary clutch, secure with primary clutch bolt and torque to bolt manufacturer specs. Use KWI Vorhees Vise or equivalent to hold primary while torquing primary bolt (BRP OEM bolt 89+/-6 ft/lb)(KWI 630 bolt 115+/-6 ft/lb)

Primary clutch disassembly and reassembly (PDrive)

Requires KWI V2 tool kit or equivalent
***Reference KWI V2 tool kit instructions
for detailed instructions on use and
disassebly)*****

1) Remove primary clutch. (See "Removing and installing primary clutch")
2) Thread clutch puller all the way in by hand and then back out 4 turns.
3) Remove 6 each Torx screws holding governor cup cap to governor cup.(T40 Torx or 13mm socket)
4) Put Moly grease on the top of the primary puller and on the threads of puller cup bolt.
5) Insert puller cup into puller plate and secure to governor cup cap using 6 each M8 bolts.(6mm Allen Wrench)
6) Tighten puller cup bolt until governor cup torque flange plate pops off its taper. (STOP TIGHTENING AS SOON AS IT POPS)(1/2" Drive Impact Gun)(24mm or 15/16" - 1/2" Drive Impact Socket)
7) Remove puller cup, puller plate clutch puller and governor cup torque flange plate.
8) Place circlip remover/installer on top of spring retainer, install threaded rod through circlip installer/ remover and screw into clutch approx 10 turns. Turn nut in to compress spring and take tension off of circlip. Remove circlip. Turn nut out to relax spring tension. Remove threaded rod, circlip installer/ remover and disassemble clutch as required. (22mm or 7/8" - Wrench)
9) Reassemble in reverse order. Use KWI Vorhees Vise or equivalent to hold primary while torquing primary bolt (BRP OEM bolt 89+/-6 ft/lb)(KWI 630 bolt 115+/-6 ft/lb) . All tapers will lock upon clutch installation to crankshaft.

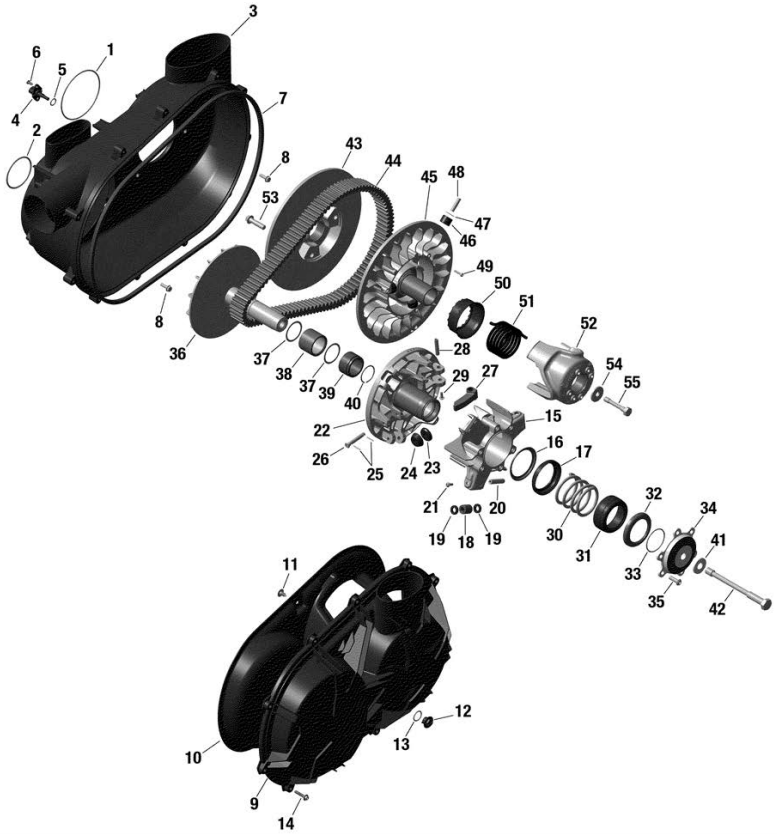


Removing and installing secondary clutch

1) Remove belt box cover. (T30 Torx)
2) Remove CVT belt. (Clutch Belt removal tool)
3) Remove secondary clutch bolt. (17mm or 7/8" - 1/2" Drive Socket)
4) Secondary clutch will slide off shaft.
5) (KWI Float Mod) Reinstall secondary clutch in accordance with the KWI Fload Mod Instructions.
6) (No KWI Float Mod) Align splines and slide secondary clutch on shaft.
7) Use KWI Vorhees Vise or equivalent to hold secondary clutch while torquing the secondary clutch bolt to bolt manufacturer specs.(17mm -1/2" Drive Socket)(Torque Wrench) Use a long 1/4" or 3/8" extension thru the helix and spring to hold secondary while torquing.
8) Reinstall CVT belt and belt box cover.

Secondary clutch disassembly and reassembly

1) Remove secondary clutch. (See "Removing and installing secondary clutch")
2) Clamp welded nut end of threaded rod in a suitable vise. Place puller cup (without puller cup bolt) over threaded rod.
3) Place secondary clutch over threaded rod with helix facing down Turn nut in to compress helix slightly and take tension off of helix bolts. Remove 3 helix bolts. While holding sheaves from turning (by hand) and helix from turning (with a long 1/4 or 3/8 extension inserted thru helix and spring) turn nut out to relax spring tension. Disassemble clutch as required. (22mm or 7/8" - Wrench)
4) Install the secondary moveable and fixed sheaves together on the threaded rod with the helix
5) Install the KWI GROOVIX with the spring clocked as specified by your clutch kit manufacturer. **Hole #1 is marked by a dot then count up in a clockwise direction per the photo. The GROOVIX helix uses equally spaced holes and does not correlate to the OEM holes.** Hole #2 in the GROOVIX is approx 40 degrees wrap using the OEM or KWI Dark Blue/Pink spring and is the standard setting. Hole #6 in the GROOVIX is approx 40 degrees wrap using the KWI SBL spring and is the standard setting.
6) Install the large compression washer then nut on the threaded rod until it starts to compress the spring.
7) Insert a long 1/4 or 3/8 extension inserted thru helix and spring. Hold the sheaves from turning while you rotate the helix CLOCKWISE until the legs clear the rollers. Tighten the threaded rod nut and compress the helix spring.
8) Install the 3 helix bolts using BLUE Locktite and torque to 40 Ft/Lbs.





RPM ADJUSTMENT

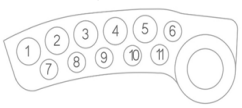
Removing and Installing the KWI DEFCOM weights

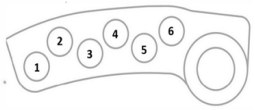
1) Remove CVT belt. (Clutch Belt removal tool)
2) Remove 3 cam arm pin retaining screws. (T25 Torx)
3) Remove cam arm pins. (KWI "The Hammer" Pin Removal Tool and "THE TIP" 5mm extractor or equivalent)
4) Remove the cam arms. You may need to push in on the outer sheave a bit to allow the arms to be slid out.
(preferred method is to use the primary opening tool included in our KWI V2 tool kit)
5) Properly configure the screws in the DEFCOM cam arms for your vehicle
using the setup chart.
6) Install the DEFCOM cam arms in your clutch and secure with the pin and pin retaining screw, torque to specs in torque chart. You may need to push in on the outer sheave a bit to allow the arms to be slid in.
(preferred method is to use the primary opening tool included in our KWI V2 tool kit)

DEFCOM 7 BASE OR DEFCOM 7 PRO SETUP CHART for DEFENDER HD11

Important Note: THIS IS A PERFORMANCE CLUTCH KIT for higher RPMs, aggressive performance, or top-speed gains. If your looking for smoother engagement and lower-RPM drivability for work, towing, or trail cruising—the AO-P1 Cruiser Kit is a better fit for your setup.

YOU MAY HAVE EITHER OF THESE VERSIONS OF WEIGHTS IN YOUR KIT. BOTH VERSIONS OFFER THE SAME PERFORMANCE AND USE THE SAME SETUP CHART





(Identical cars may have HP differences of up to 10 HP due to engine manufacturing tolerances so clutch kit calibration adjustments are necessary in most cases)

TUNE	TIRE SIZE	SCREW CONFIGURATION	Primary spring	Secondary spring / Helix / hole	Belt Recommendation	Full throttle RPM at 50mph
STOCK	STOCK	*NONE*	OEM	**OEM HELIX -** OEM secondary spring in hole #4 (30 degrees wrap) **(PRO) KWI DR3 GROOVIX -** BLK/GRN spring hole #2 (35 degrees wrap)	BRP 422280652 Gates 48R4289 Gboost WBB652RS OR WBB383	7300 RPM +/- 100 RPM
	32"-35"		KWI Blk/Yelllow	**OEM HELIX -** OEM secondary spring in hole #3 (60 degrees wrap) **(PRO) KWI DR3 GROOVIX -** BLK/GRN spring hole #3 (70 degrees wrap)		
91/93 OCTANE TUNE	STOCK	1,2,3,4	OEM	**OEM HELIX -** OEM secondary spring in hole #4 (30 degrees wrap) **(PRO) KWI DR3 GROOVIX-** BLK/GRN spring hole #2 (35 degrees wrap)		
	32"-35"	1,2,3	KWI Blk/Yelllow			
RACE GAS / E85 TUNE	STOCK	1,2,3,4,5,6	OEM			
	32"-35"	1,2,3,4	KWI Blk/Yelllow			

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WEIGHT SCREW PACK	3	—	SCREWPACK
BLK/YEL PRIMARY SPRING	1	—	BLK/YEL
DR3 GROOVIX (DEFCOM7 PRO ONLY)	1	—	DR3
BLK/GRN SECONDARY SPRING (DEFCOM7 PRO ONLY)	1	—	BLK/GRN

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