



## GOAT BUILT CBR/TC-PUMP RELOCATION BRACKET

Thank you for purchasing Goat Built components, before starting your installation, we recommend that you read through these instructions to familiarize yourself with the steps and parts so you can plan and prepare for your install accordingly.

A few notes about the 4421 CBR/TC pump bracket:

- This bracket kit is intended for 99 an up GM truck Vortec 4.8/5.3/6.0, or 2010+ Camaro LS3 pulley spacing including balancer, water pump, tensioner, and idler. You will re-use your tensioner that is mounted to the water pump
  - If you want to use an LS car intake and F-body water pump, you will need to use the optional belt routing, you should also use the F-body tensioner. See the belt routing below in blue. You will need 3/4" water pump spacers with the F-body water pump to get the pulley lined up.
  - Another LS Car option is the 2010+ Camaro LS3 water pump, it is the same as the truck spacing, but the upper water pump outlet points forward on the driver side. Use the Camaro belt tensioner if you are using the Camaro water pump.
  - This kit fits a CBR or TC pump, this shim goes behind a CBR pump or in front of a TC pump
  - The pump has two different clocking positions so use which one works best for your application
  - A 90 degree pressure fitting is required at the top of the pump
  - There are two different alternators commonly used on the GM truck engines, 105-amp small case or a 145-amp large case. Some of the 105-amp alternators require some grinding on the brackets to clear the case and the idler pulley may need to be shimmed out with a 1/2 ID washer to clear the lower alternator case. This kit will also fit the 99-03 F-body alternator. This does not fit the later 2016 and up Truck alternators or 2010 and up Camaro alternators.
1. Loosely install all the brackets, pump, and bolts before you fully tighten any of the bolts.
  2. Install the 4421-03 rear lower bracket to the head using the two M10 x 50 flat head allen head bolts with the three 1.095" spacers between the bracket and the head. Install the M10x65 bolt in the upper hole just to align the spacer. Go ahead and tighten the two flat head bolts to 40 ft-lbs then remove the M10x65 bolt.
  3. Loosely install the lower angle bracket, 4421-05 to the side of the block and rear of the 4421-03 bracket. Use a M10 x 25 bolt with a lock washer and flat washer on the side of block.
  4. The aluminum LS blocks have a M10 tapped hole on the front that aligns with the lower hole where the M10x100, 2.510 spacer and 4421-05 lower angle bracket line up. You could eliminate that 4421-05 rear lower angle bracket by using a M10x120 bolt with an additional 1.095 spacer. You could even drill and tap an Iron truck block for that M10 hole.
  5. Install the M10 x 65 bolt in the lower right hole of 4421-02 bracket, .250 spacer, 4421-03 bracket and the 1.095 spacer into the head.



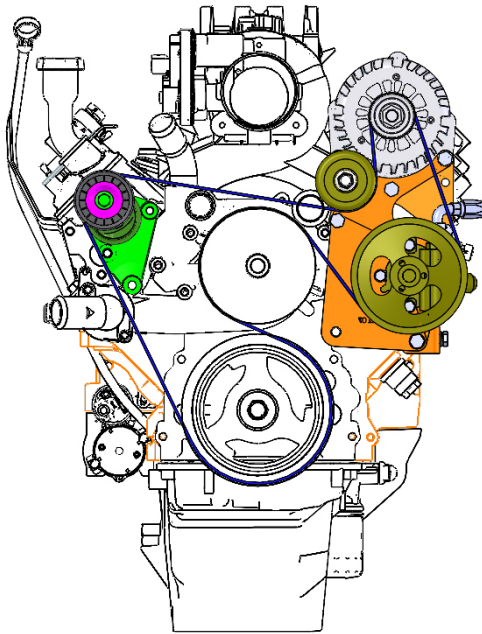
## IBEX 4421 GM VORTEC TRUCK CBR/TC-PUMP BRACKET

6. Install the 4421-01 bracket to the head using the two M10x120 bolts, 2.010 spacers, 4421-02 bracket and 1.595 spacers.
7. Install the M10 x 100 bolt and flat washer through the bottom hole of the 4421-01 bracket, 2.510 spacer, 4421-03 bracket, 4421-05 bracket with a flat washer and nylock nut.
8. Install the pump using the 8mm bolts, use a flat washer under the bolt heads and under the nuts. The 4421-06 shim normally goes behind a CBR pump or in front of a TC pump. Use the shorter M8 x 20 bolt if you are installing the shim on the back of the pump. Use the longer M8x25 bolt if you are installing the shim at the front of the pump. The pump has two clocking options. Only one of longer M8x90 bolts will go through the 4421-01 bracket.
9. Install the alternator between the 4421-01 and 4421-02 brackets using an M10x80 bolt and nylock nut, use a flat washer under the bolt head and nut.
10. Torque the 10 MM bolts to 40 ft-lbs, 8 mm bolts to 15 ft-lbs
11. The idler has two possible mounting locations, you should only use one idler. If you are using a truck water pump and tensioner, mount the idler in the upper hole under the alternator. If you are using a LS1 or LS3 water pump and tensioner mount the idler in the lower hole under the pump. Install the idler to the 4421-01 bracket using the 4400-04 spacer, 1/2" flange bolt and flange lock nut. Torque the idler nut to 70 ft-lbs

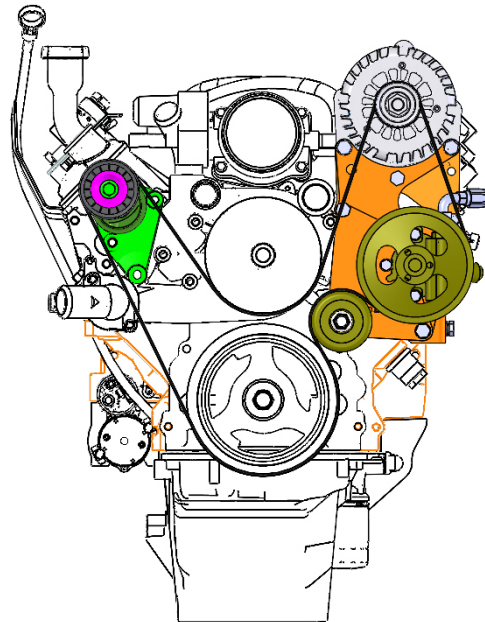


Belt routing is shown below, **suggested** belt lengths and part numbers are listed below, the CBR pump and pulley we normally sell has a 6" pulley, the TC pump has a 5.5" pulley. If you need a different length belt, the common part numbers are the lengths. The last four numbers is the length up to one decimal. For example, a K060854 belt number will be 085.4" long.

TENSIONER	WATER PUMP	PUMP	ALTERNATOR	BELT LENGTH	BELT NUMBER
LS3	LS3	CBR/6"	145	80.5	K060806
LS3	LS3	CBR/6"	105	79.5	K060795
LS3	LS3	TC/5.5"	145	79.5	K060795
LS3	LS3	TC/5.5"	105	79	K060790
TRUCK	TRUCK	TC/5.5"	145	85	K060850
TRUCK	TRUCK	TC/5.5"	105	84	K060840
TRUCK	TRUCK	CBR/6"	145	86	K060860
TRUCK	TRUCK	CBR/6"	105	85	K060850



*Truck Belt Routing*



*Car Belt Routing*



ALTERNATE IDLER LOCATON  
FOR USING TRUCK WATER PUMP  
AND BELT ROUTING

2X M10 X 120 BOLT  
M10 LOCK WASHER  
2.010 SPACER  
1.595 SPACER  
INTO HEAD

M8 X 25 BOLT FOR  
TC PUMP WITH SHIM  
IN FRONT OF PUMP  
OR  
M8 X 20 BOLT FOR  
CBR PUMP WITH SHIM  
BEHIND PUMP

1/2 BOLT  
IDLER SPACER  
1/2 NYLOCK

DAYCO 89007  
76 MM IDLER  
\*\*USE THIS IDLER  
LOCATION FOR CAR  
WATER PUMP/TENSIONER

M10 X 100 BOLT  
M10 FLAT WASHER  
2.510 SPACER  
M10 FLAT WASHER  
M10 NYLOCK

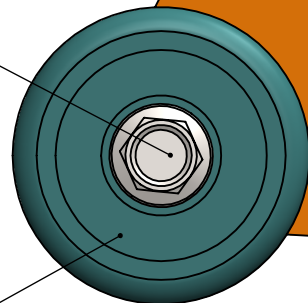
M10 X 25 BOLT  
LOCK WASHER  
M10 FLAT WASHER  
INTO BLOCK

2X M10 X 80 BOLT  
THRU ALTERNATOR  
1.595 SPACER  
2X FLAT WASHER  
M10 NYLOCK

M10 X 60 BOLT  
LOCK WASHER  
.250 SPACER  
1.095 SPACER  
INTO HEAD

2X M10 X 50 FLAT HEAD BOLT  
1.095 SPACER  
INTO HEAD

M8 X 90 BOLT  
2X M8 FLAT WASHER  
M8 NYLOCK  
THRU PUMP



TITLE:

SIZE	DWG. NO.
<b>A</b>	<b>4421</b>

SCALE: 1:1	WEIGHT:	SHEET 2 OF 3
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ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	4421-01-A	FRONT BRACKET	1
2	4421-02-A	REAR BRACKET	1
3	4421-03-A	LS ALT PS BRACET, REAR PUMP PLATE	1
4	4421-04	LS ALT PS BRACKET, PUMP SHIM	1
5	4421-05	LS AL PS BRACKET, LOWER BRACE	1
6	M8X 90	M8 X 90 BOLT	2
7	M8X 25	M8 X 25 BOLT	1
8	M8X 20	M8 X 20 BOLT	1
9	M8-FW	M8-FLAT WASHER	5
10	M8-LN	M8 LOCK NUT	2
11	M10 X 120	M10 X 120 BOLT	2
12	M10 X 100	M10 X 100 BOLT	1
13	M10 X 80	M10 X 80 BOLT	2
14	M10 X 65	M10 X 65 BOLT	1
15	M10 X 25	M10 X 25 BOLT	1
16	M10-LN	M10 LOCK NUT	3
17	M10-FW	M10-FLAT WASHER	7
18	M10-LW	M10-LOCK WASHER	4
19	4400-0250	.250" SPACER	1
20	4400-1095	1.095" SPACER	3
21	4400-1595	1.595" SPACER	2
22	4400-2010	2.010" SPACER	2
23	4400-2510	2.510 SPACER	1
24	1-2 X 2-1-4 FB	1/2 X 2-1/4 IDLER FLANGE BOLT	1
25	1-2-13FLN	1/2-13 FLANGE NUT	1
26	4400-04	IDLER SPACER, .73"	1
27	M10 X 50 FHCS	M10 X 50 FLAT HEAD ALLEN BOLT	2
28	4463	76 MM IDLER, 89007	1



TITLE:

SIZE DWG. NO.

**A** 4421

SCALE: 1:1 WEIGHT: SHEET 3 OF 3