

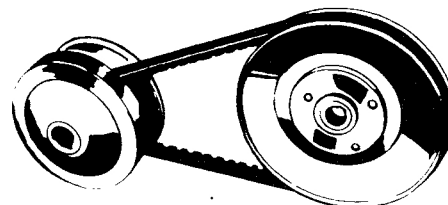


# MODEL 20 SERIES TORQUE CONVERTER SYSTEM

COMET TORQUE CONVERTERS FOR ALL ENGINES THRU 8 H.P.

## MODEL 20 SERIES (SYMMETRICAL)

**GENERAL INFORMATION:** The model 20 uses a 3/4" top width belt. The belt mass lends substantially to the driving ability of the system especially in cases where added torque ability is required without danger of slipping the belt. The belt mass of the 3/4" top width is especially helpful in applications of low speed, added power requirements such as tractor mowers, off the road boonie bikes, four wheelers, go-karts, mini-bikes, etc. This is a conventional type system featuring 13° angle sheave faces for a 26° collective angle. Driven units available with either 6" or 7" diameter sheaves.



**SYSTEM:** MODEL 20 SERIES

**TYPE:** SYMMETRICAL (26°)

**RECOMMENDED H.P.:**

**MAX: 8 H.P. 2 CYCLE**

**MAX: 8 H.P. 4 CYCLE**

**DRIVE BELT:** 3/4" TOP WIDTH

**SYMMETRICAL TYPE**

**DRIVE CLUTCH BORE SIZES:**

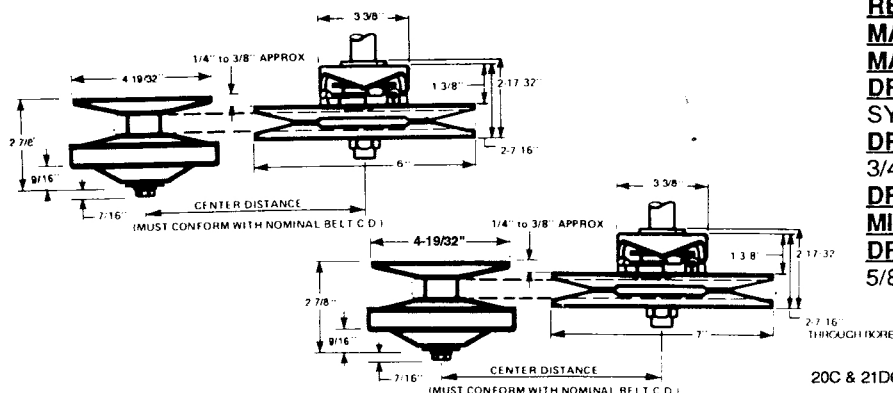
3/4", 1" (3/16-1/4 KEY)

**DRIVE CLUTCH ENGAGEMENT RANGE:**

**MIN: 1200 RPM MAX: 3100 RPM**

**DRIVEN UNIT DIA. 6" or 7": SEE PAGE 4**

5/8" or 3/4" BORE (3/16 KEY)



**NOTE:** DIMENSIONS AND RATIOS ARE IN ACCORDANCE WITH ENGINEERING'S DRAWING CURRENT WITH THE DATE SHOWN ON THIS ITEM. SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE.

20C & 21D6 REDUCTION RATIO

20C & 21D7 REDUCTION RATIO

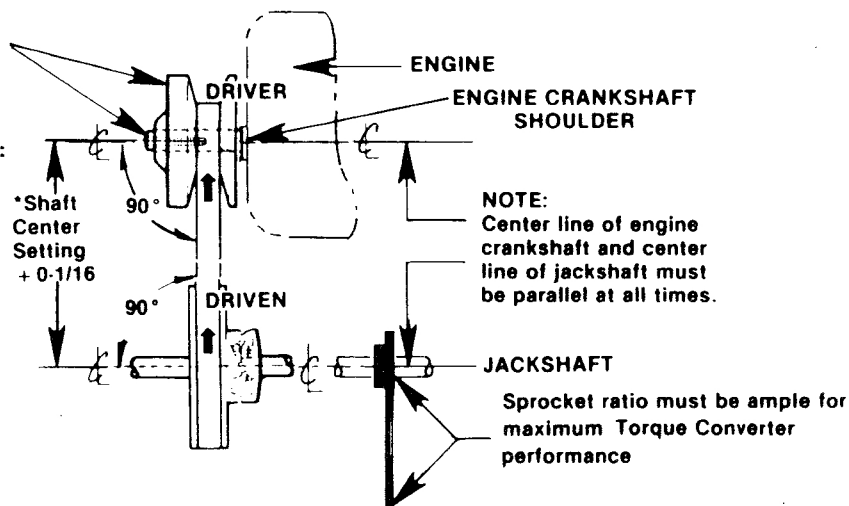
HIGH SPEED	LOW SPEED
1.15	2.68
OVERALL SPEED RATIO 2.33	

HIGH SPEED	LOW SPEED
1.40	3.13
OVERALL SPEED RATIO 2.24	

## MODEL 20 SYSTEM INSTALLATION INSTRUCTIONS

### IMPORTANT!

Torque Converter DRIVE UNIT MUST NOT FLOAT on engine crankshaft. It must be bolted tight against engine crankshaft shoulder. Recommended Torque for bolt: 20 lbs. Max.



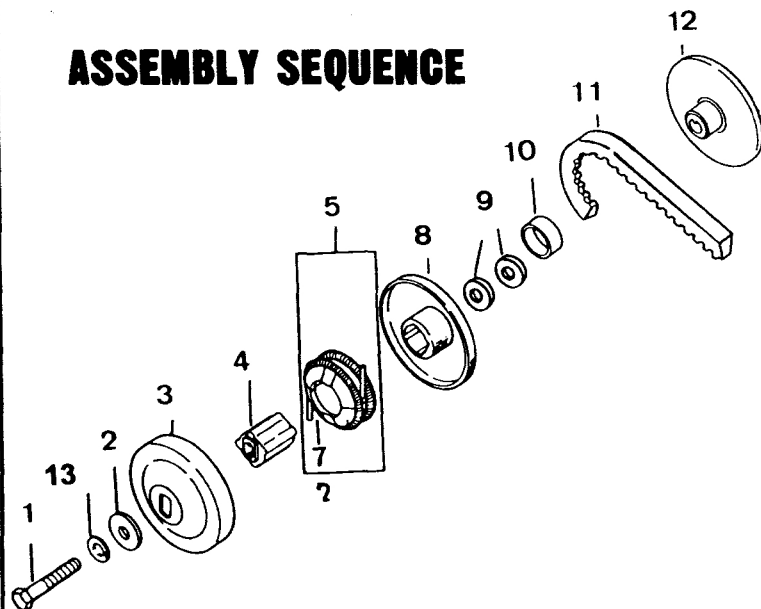
**NOTE:** Center line of engine crankshaft and center line of jackshaft must be parallel at all times.

Sprocket ratio must be ample for maximum Torque Converter performance

# 20 SERIES

## 3/4 BORE DRIVER UNITS

### ASSEMBLY SEQUENCE



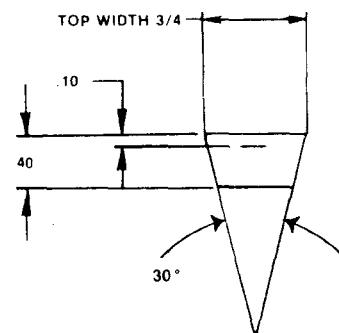
ORDER NO.	DESCRIPTION
203812A	DRIVER 3/4" BORE

APPROXIMATE ENGAGEMENT Specifications for the Comet Clutch Driver were determined by reading the actual r.p.m. via strobe and tachometer at the moment of drive contact; i.e. when the Drive Clutch has engaged the belt with adequate ability to move the driven unit from a stationary position, under load. Throttle action used for determining these readings is a slow, steady, increase of engine r.p.m.s to the point of engagement. A number of readings are made to determine the norm of the engagement cycle.

NOTE: ALWAYS MAKE SURE THE DRIVER HUB (ITEM 4) IS ALIGNED WITH THE OUTSIDE DRUM (ITEM 3) AS SHOWN, AND TORQUED DOWN TIGHTLY.

### PARTS LIST

ITEM NO.	ORDER NO.	DESCRIPTION	QTY REQ.
1	202092A	Bolt 3/8-24 x 1 1/2" (Use on 203812A)	1
2	200841A	Washer, Steel 3/8" I.D. - on 203812A	1
3	202090A	Drum	1
4	200376A	Hub Driver 3/4" I.D. (3/16 Key)	1
5	200344A	Shoe Driver Assembly (Zinc weights engagement 2200 RPM)	1
7	11188A	Spring, Garter Blue	2
8	200351A	Face, Movable w/Splined Hub	1
9	200836A	Washer, Belt Spacer (Not required on units manufactured after March 1994)	2
10	200349A	Bushing, Bronze	1
11	TC-884	Series (See Belt Specs.)	1
12	202064A	Fixed Sheave 3/4" Bore (3/16 Key)	1
13	200702A	Washer Spg Loc 3/8	1



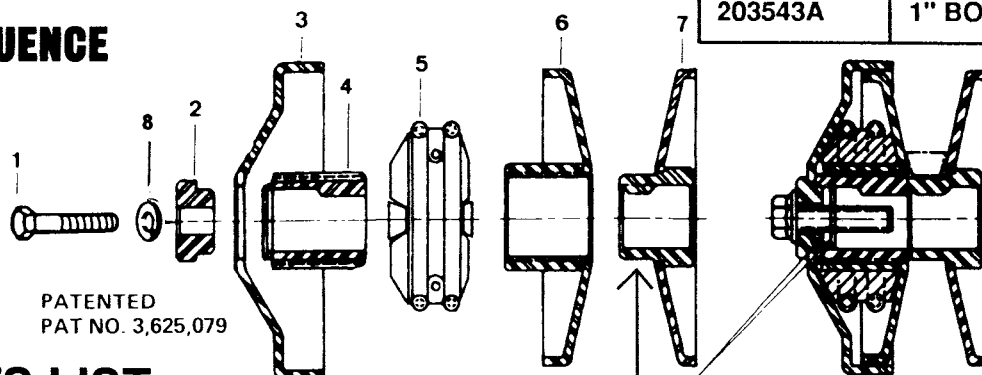
**BELT  
CROSS  
SECTION**

REFERENCE ONLY

# 20 SERIES

## ONE INCH BORE DRIVER UNIT

### ASSEMBLY SEQUENCE



PATENTED  
PAT NO. 3,625,079

ORDER NO.	DESCRIPTION
203543A	1" BORE DRIVER

### PARTS LIST

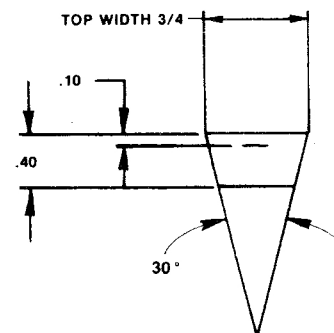
ITEM NO.	ORDER NO.	DESCRIPTION	QTY. REQ.
1	202092A	Bolt, 3/8-24 x 1 1/2"	1
2	202429A	Washer, Pilot	1
3	202427A	Drum	1
4	203641A	Sleeve, Splined (1/4 Key)	1
5	200344A	Shoe Ass'y Driver	1
6	203637A	Face, Movable w/Splined Hub	1
7	203639A	Face, Fixed (1/4 Key)	1
8	200702A	Washer, Spg Loc	1

Washer No. 202429A MUST NOT Bottom Out against end of Engine Shaft when bolt is torqued tight against washer.

**NO BRONZE BUSHING  
ON 1" BORE DRIVER**

### RECOMMENDED BELT SPECIFICATIONS

20 Series: • 3/4" Top Width • 30° Symmetric (15° + 15°) (20C & 21D-6" & 21D-7") • .40 Thick • Kevlar Type					
COMET Order No.	COMET No. Marked On Belt	C.D. SETTING		Belt O.C.	Fractional Equiv.
		6" Dia. Driven	7" Dia. Driven		
203578A	884-70	6 15/16-7	No Fit	27.36	27 23/64
203579A	884-75	7 1/8-7 3/16	6 1/4-6 5/16	28.32	28 21/64
203580A	884-80	7 9/16-7 5/8	6 13/16-6 7/8	29.28	29 9/32
203581A	884-85	8 3/16-8 1/4	7 5/16-7 3/8	30.25	30 1/4
203582A	884-90	8 11/16-8 3/4	7 3/4-7 13/16	31.23	31 15/64
203583A	884-95	9 3/16-9 1/4	8 5/16-8 3/8	32.20	32 13/64
203584A	884-100	9 5/8-9 11/16	8 3/4-8 13/16	33.18	33 11/64
203585A	884-105	9 15/16-10	9 3/16-9 1/4	33.78	33 25/32
203586A	884-110	10 3/4-10 13/16	9 13/16-9 7/8	35.14	35 9/64
203587A	884-120	11 11/16-11 3/4	10 15/16-11	37.11	37 7/64
203588A	884-130	13 1/16-13 1/8	12 1/8-12 3/16	39.77	39 25/32



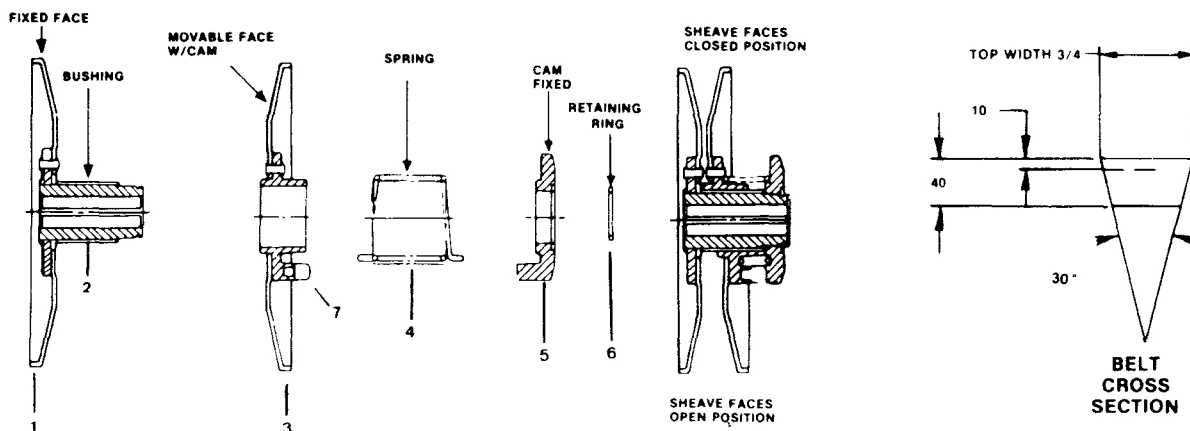
**BELT  
CROSS  
SECTION**  
REFERENCE ONLY

## 20 SERIES DRIVEN UNITS

3/4" TOP WIDTH BELT

### ASSEMBLY SEQUENCE & PARTS LIST

ORDER NO.	DESCRIPTION
217772A	5/8 BORE - 6" DIA. DRIVEN
217776A	3/4 BORE - 6" DIA. DRIVEN
217774A	5/8 BORE - 7" DIA. DRIVEN
217775A	3/4 BORE - 7" DIA. DRIVEN



#### PARTS LIST (6" DRIVEN UNITS) 21D6

ITEM NO.	ORDER NO.	DESCRIPTION	QTY REQ.
1	217765A	Face, Fixed w/Post 5/8 Bore (3/16 Keyway) W/ Ret.Ring	1
1	217767A	Face, Fixed w/Post 3/4 Bore (3/16 Keyway) W/Ret Ring	1
2	203942A	Bushing	1
3	215645A	Face, Movable w/Cam	1
4	215698A	Spring, Coil, Blue	1
5	215650A	Cam, Fixed 20°	1
6	204714A	Ring, Retaining	1
7	204332A	Button, Insert	6

#### PARTS LIST (7" DRIVEN UNITS) 21D7

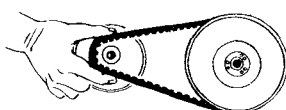
ITEM NO.	ORDER NO.	DESCRIPTION	QTY. REQ.
1	217764A	Face, Fixed w/Post 5/8 Bore (3/16 Keyway) W/Ret Ring	1
1	217766A	Face, Fixed w/Post 3/4 Bore (3/16 Keyway) W/Ret Ring	1
2	203942A	Bushing	1
3	215646A	Face, Movable w/Cam	1
4	215698A	Spring, Coil, Blue	1
5	215650A	Cam, Fixed 20°	1
6	204714A	Ring, Retaining	1
7	204332A	Button, Insert	6

#### ADJUSTING THE SPRING TENSION OF THE DRIVEN UNIT

##### WARNING! DO NOT RUN TIGHT BELT

##### TIPS FOR PROPER BELT ADJUSTMENT USING 6" OR 7" DRIVEN UNITS

1. Select belt for nearest approx. shaft setting.
2. Check belt tension. Belt should be at its highest point in the driven pulley flanges. Remove outer half of driver clutch. Squeeze belt down and pull forward as shown. Position engine so that 1/8" to 3/16" of clearance is provided around clutch bushing/ hub.



NOTE: By increasing the spring tension of the torque sensing system... the power ratio of the system (Driver and Driven) can be held longer at higher engine r.p.m.'s before it is overcome by the clutch driver.

To shorten the time required for the driven member to attain it's speed ratio, DECREASE the amount of spring tension of the torque sensing cams. This will allow the r.p.m. of the drive clutch to overcome the power ratio of the driven unit at a faster rate in a lower r.p.m. range.