







DATE
8/16/60
BY
Ramsey

AS 31-003

TRANSMISSION ENGINEERING DEPARTMENT

COOLER OIL FLOW OF THE ALLISON TC-320 AND TC-370
TORQMATIC CONVERTERS

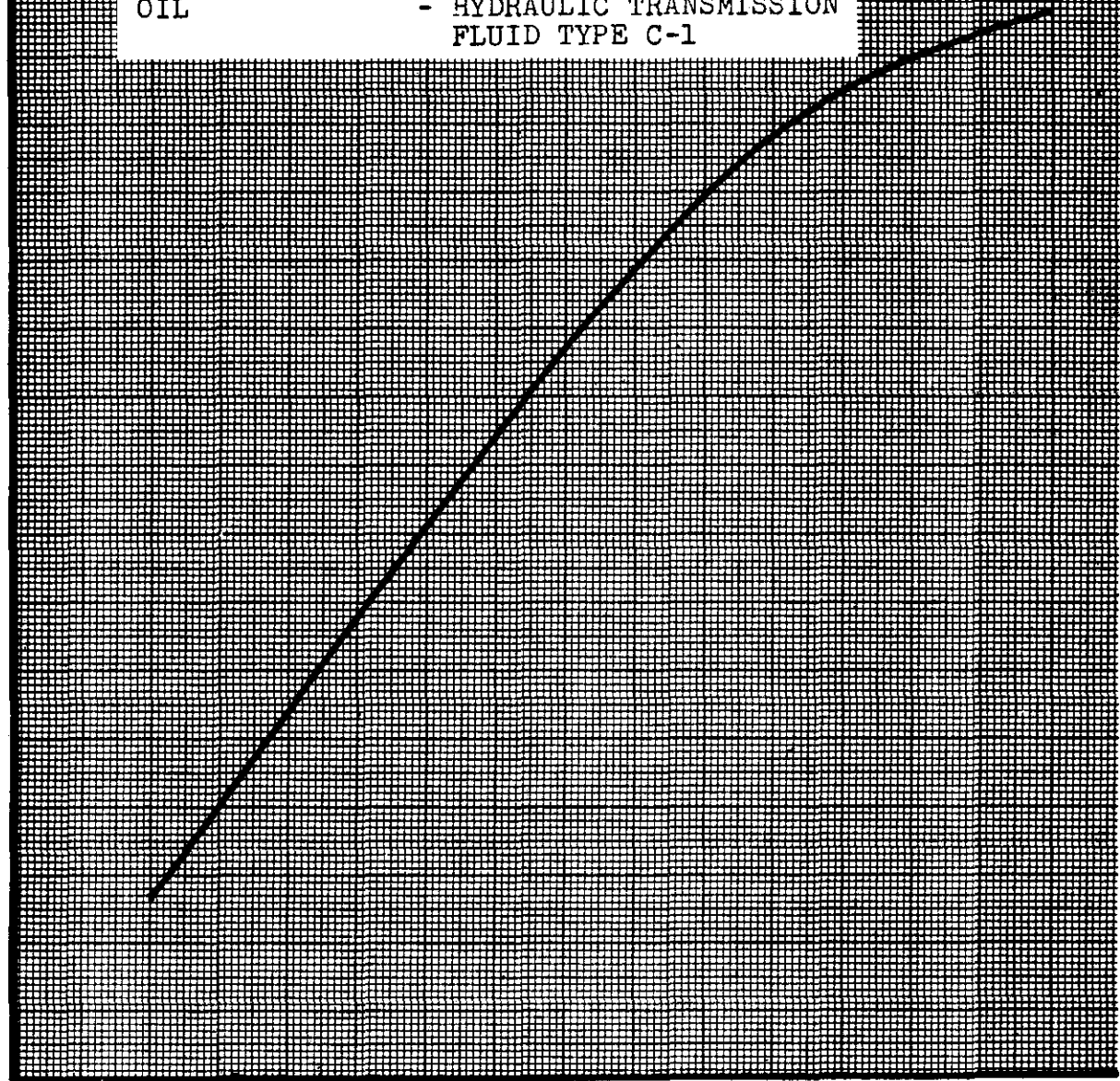
OIL TEMPERATURE - 200°F
OIL - HYDRAULIC TRANSMISSION
FLUID TYPE C-1

Oil Flow - GPM

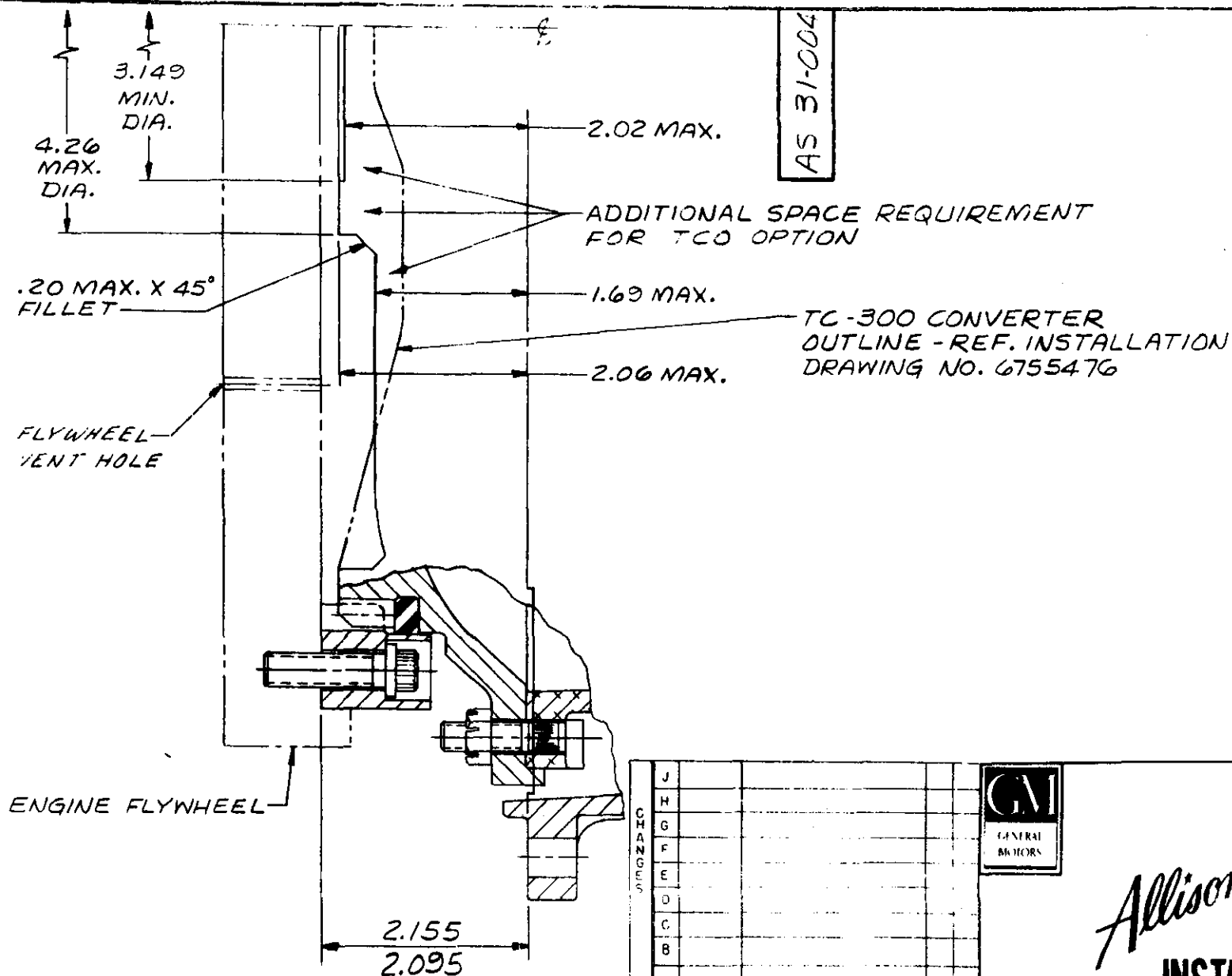
16
14
12
10
8
6
4
2
0

0 400 800 1200 1600 2000 2400 2800 3200

Converter Input Speed - RPM



AS 31-004



CHANGES	J			
	H			
	G			
	F			
	E			
	D			
	C			
	B			
	A			
DRAWN		CHECKED	CHG. DRAFTSMAN	
HUGHES				
1-20-61				
SCALE			APPROVED	
FULL				



Allison **TORQMATIC** Drives
INSTALLATION DIAGRAM

MODEL TCO 300

AS 31-004

ALLISON DIVISION - GENERAL MOTORS CORPORATION - INDIANAPOLIS, INDIANA

POWER TAKE-OFF SPROCKET CHART TE-240, 320 AND 370 SERIES ALLISON CONVERTERS WITH HEAVY DUTY OUTPUT SHAFT • (Chain Drive Only)

EXAMPLE:

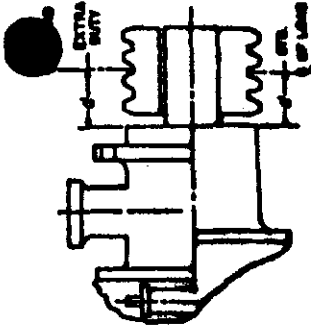
DESIGNER FROM REMOTE TO 8' OF LOAD (4').
 CONVERTER OUTPUT TORQUE -
 THEN MIN. PITCH DIAMETER -



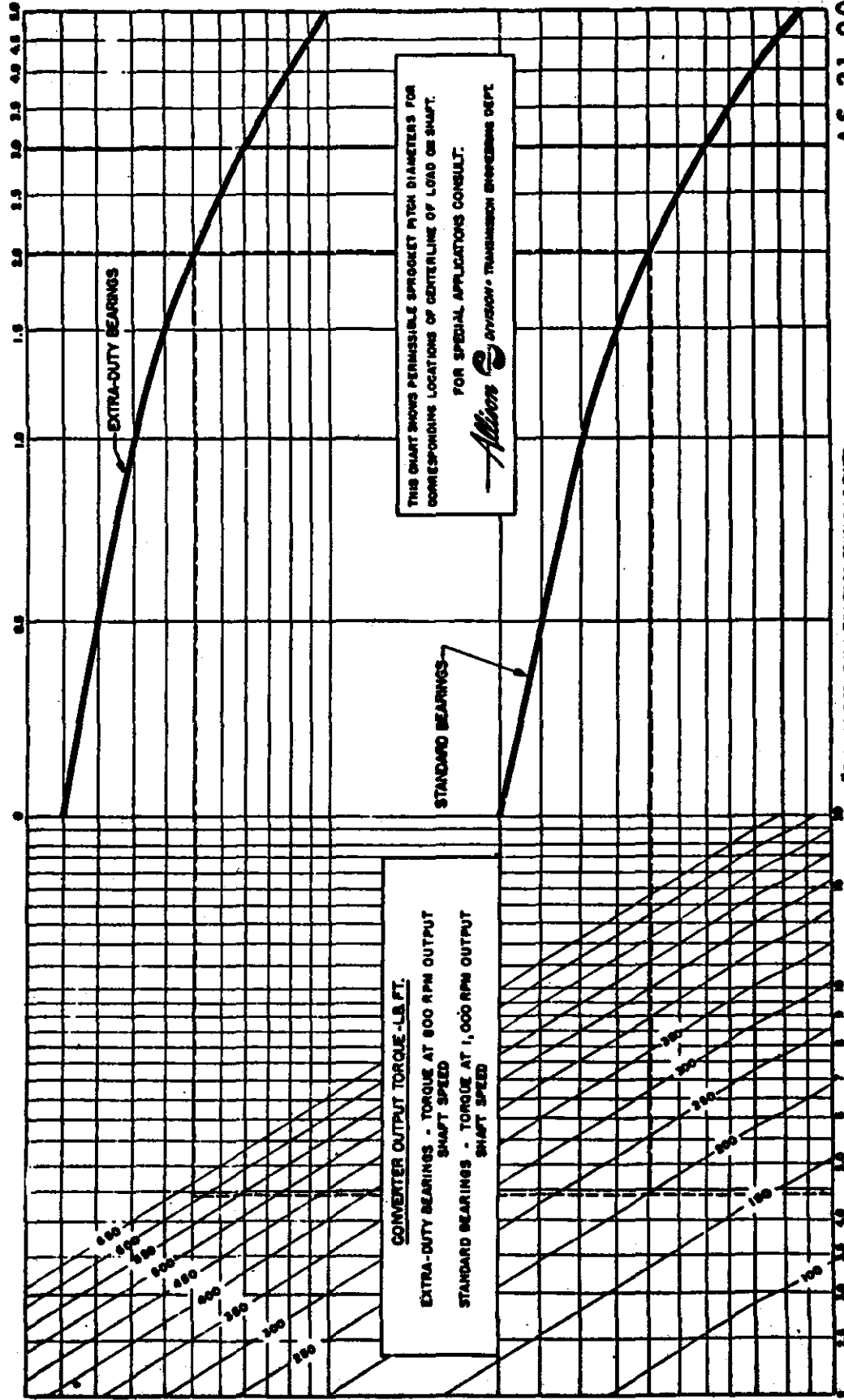
800 (AT 1,000 RPM)
 4.4 INCHES



800 (AT 800 RPM)
 4.4 INCHES



4' DISTANCE FROM HUBS TO
 CENTER LINE OF LOAD IN
 SERIES 800 NOT EXCEED 5 IN.



FOR V-BELT DRIVE MIN. PULLEY P.D. SHALL BE 1.5 TIMES MIN. SPROCKET P.D.

ALLISON DIVISION

GENERAL OFFICE (CORPORATION)

INDIANAPOLIS, INDIANA

AS 31-005

BY 11-2-62

DUPLICATE

PRESSURE SPECIFICATIONS:

(AT OPERATING TEMPERATURE 200°-250°F)

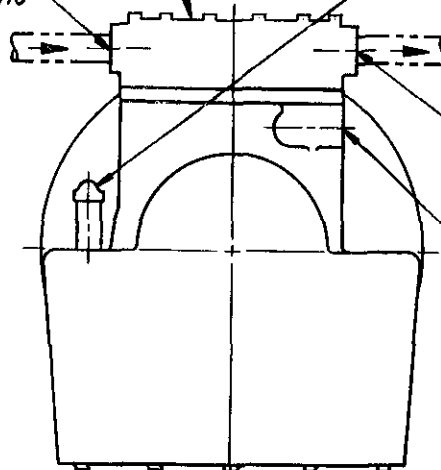
	TC-200	TC-300
FULL POWER STALL	30 P.S.I.	40 P.S.I.
FULL THROTTLE-NO LOAD (HIGH IDLE)	90 P.S.I. MAX.	90 P.S.I. MAX.

OPERATING PRESSURE CONTROLLED BY COOLER
CIRCUIT RESTRICTION. (COOLER, LINES, AND
ORIFICE RESTRICTORS AS REQUIRED.)

GENERAL COOLER RECOMMENDATIONS:
OIL TO WATER TYPE HEAT EXCHANGER
RECOMMENDED CAPACITY TO PROVIDE
CONTINUOUS COOLING WITH
FOLLOWING CONDITIONS:
a) 250°F MAX. OIL INLET (CONV. OUT)
b) 70% CONVERTER EFFICIENCY
WITH FULL ENGINE POWER
(REF. TO SPECIFIC ENGINE-CONV.
MATCH CURVE)

FOR HEAT EXCHANGER
PERFORMANCE DATA
SEE AS 00-009

1.00 N.P.T.F.
COOLANT IN



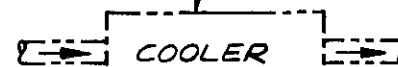
INTEGRAL HEAT EXCHANGER

3/4 N.P.T.F.
COOLER RETURN

CHECK OIL LEVEL AT
OPERATING TEMPERATURE
WITH ENGINE IDLING.
SUMP CAPACITY APPROX-
IMATELY 10 QTS.
HYDRAULIC TRANSMISSION
FLUID TYPE "C-2" RECOMMENDED

1.00 N.P.T.F.
COOLANT OUT

3/4 N.P.T.F. "CONV. OUT"
250°F MAX.
PROVIDE TEMPERATURE
GAGE. (REF. ALLISON
PART NO. 6756665)



REMOTE HEAT EXCHANGER

#12 MIN. HOSE SIZE
(S.A.E. 5/8 I.D.)

OPTIONAL LOCATIONS
FOR ORIFICE RESTRICTORS
IF REQUIRED

3/4 N.P.T.F. - CONV. OUT
PRESSURE CHECK POINT
SEE PRESSURE SPECIFICATIONS

AS 31-006

HOSE SPECIFICATION:
S.A.E. 100 RS EXCEPT
OPERATING TEMPERATURE
RANGE FROM -40°F TO
+275°F

FOR COOLER OIL FLOW INFORMATION, REF. :
TC-200 AS 31-002
TC-300 AS 31-003

NOTE:

FOR SEVERE APPLICATIONS, OR OPERATION IN
CONTAMINATED ENVIRONMENT, THE REMOTE
HEAT EXCHANGER CONFIGURATION, WITH A
FULL-FLOW FILTER IN THE COOLER CIRCUIT,
IS RECOMMENDED. FILTER INSTALLATION
SHOULD BE VERTICAL WITH THE BASE UP
AND MOUNTED AT OR BELOW THE CONVERTER
CENTERLINE.

PARTS SHOWN IN PHANTOM
ARE FURNISHED BY CUSTOMER

J H G F E D C B	DATE	1-13-70	SEE REV NOTICE	1	2	3	4	5	6	7	8	9	10	11	12
	BY	HUGHES	PLH	DATE	5-14-62	10-3-62	10-3-62	10-3-62	10-3-62	10-3-62	10-3-62	10-3-62	10-3-62	10-3-62	10-3-62
	SCALE	1	PROL. DIM.	ST. JOHN	APPROV.	WELCHER	DATE	5-17-62	5-24-62	5-24-62	5-24-62	5-24-62	5-24-62	5-24-62	5-24-62
	SIZE	4x5	DATE	5-17-62	5-24-62	5-24-62	5-24-62	5-24-62	5-24-62	5-24-62	5-24-62	5-24-62	5-24-62	5-24-62	5-24-62

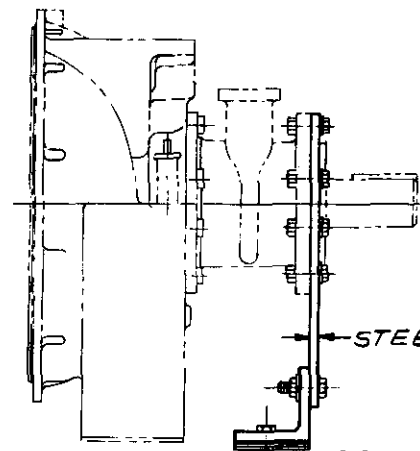
GM
GENERAL MOTORS

Allison TORQUEMATIC Drives

EXTERNAL HYDRAULIC CIRCUIT REQUIREMENTS

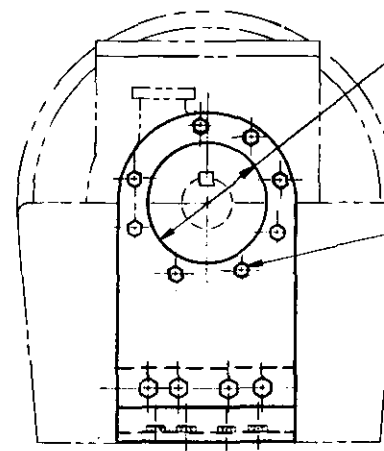
MODEL 200 & 300 SERIES TORQUE CONV. **AS 31-006**

ALLISON DIVISION - GENERAL MOTORS CORPORATION - INDIANAPOLIS, INDIANA



STEEL $\frac{3}{16}$ MIN.

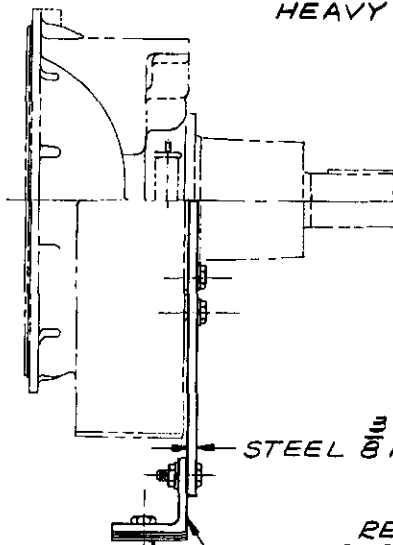
RECOMMENDED FOR
HEAVY DUTY BEARINGS



SUPPORT PLATE PILOT DIA.
TO PROVIDE .000 TO .010
LOOSE FIT WITH CONVERTER
MOUNTING PILOT DIA.

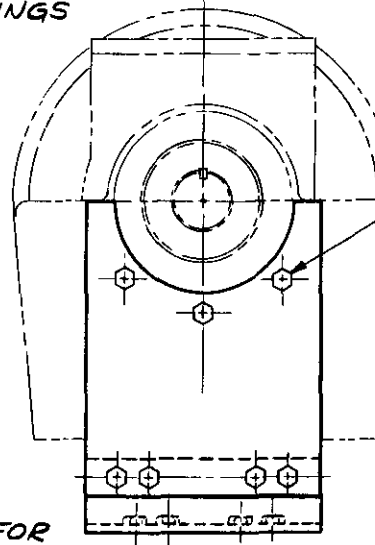
EIGHT - $\frac{1}{2}$ IN. BOLTS
WITH NUTS
TIGHTEN SECURELY

NOTE:
THE SUPPORT PLATE MUST
BE DESIGNED TO ABSORB
THE TOTAL SPROCKET SIDE
PULL FOR THE SPECIFIC
INSTALLATION. WEIGHT
SUPPORT AND TORQUE
REACTION ARE TO BE
ABSORBED BY THE ENGINE
MOUNTING.



STEEL $\frac{3}{16}$ MIN.

RECOMMENDED FOR
STANDARD BEARINGS



THREE - $\frac{1}{2}$ IN. BOLTS
TIGHTEN SECURELY

SHIM LEVEL AFTER
INSTALLING ENGINE
& CONVERTER ON
SUPPORT OR SKID.

OPTIONAL - TWO PIECE
OR WELDED CONSTRUCTION

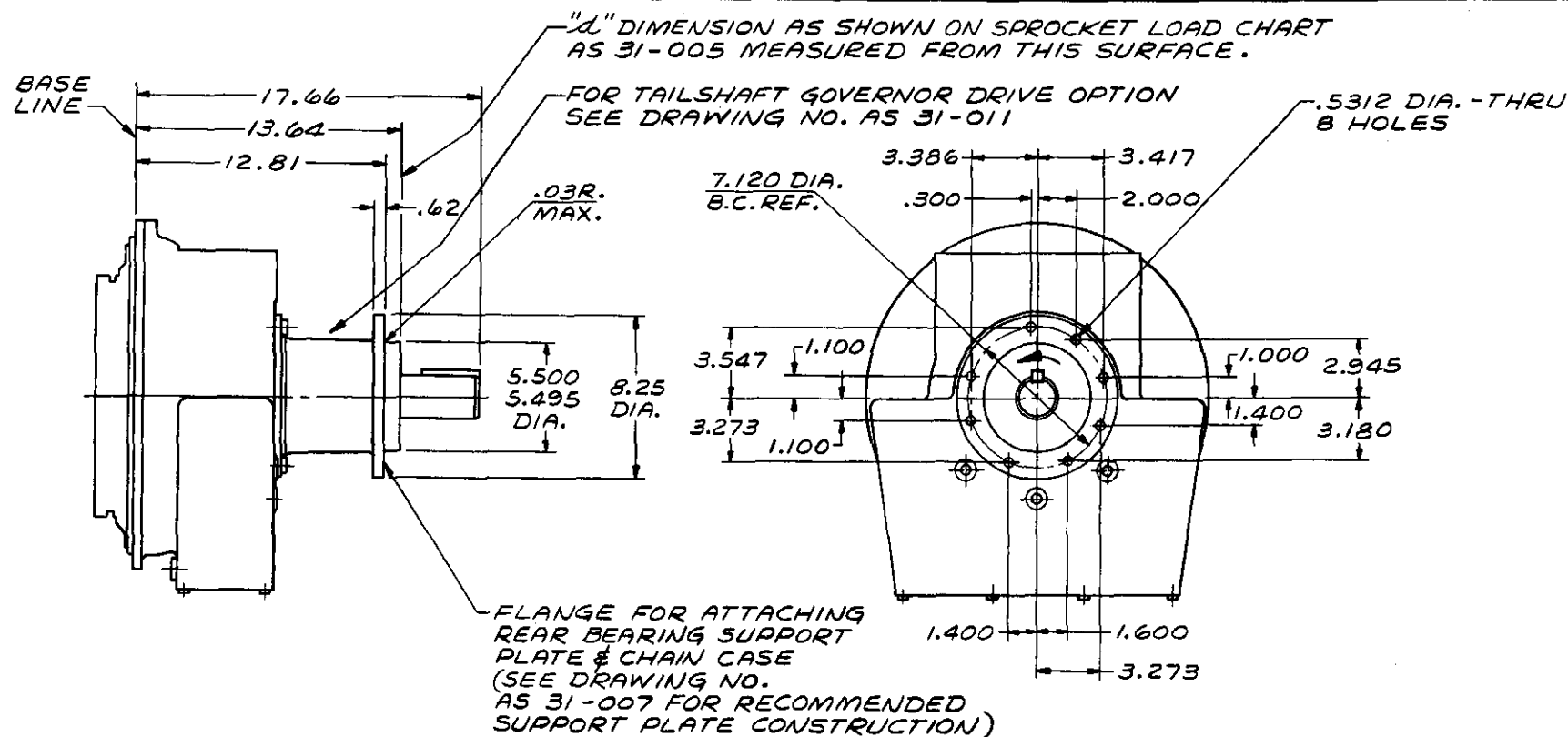
AS 31-007

FOR ALL CONVERTER INSTALLATION
DATA NOT SHOWN SEE BASIC
INSTALLATION DRAWING NO.
AS 31-001

DESIGNED BY	DRAWN BY	CHECKED BY	DATE
HUGHES	10-18-62	SWANEY	2-18-63
SCALE	1	ST. JOHN	2-2-63
SIZE	2-2-63	WELCHER	2-12-63



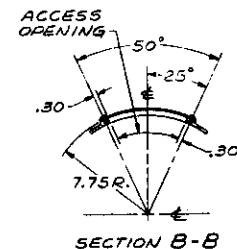
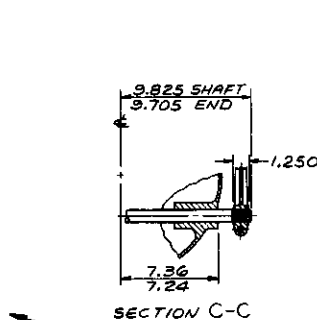
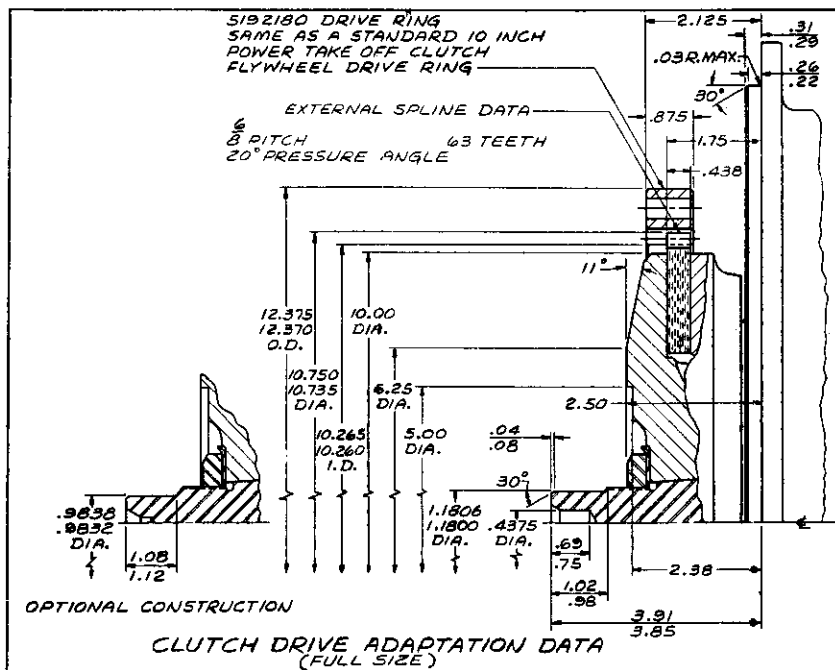
TITLE: RECOMMENDED SUPPORT
PLATE CONSTRUCTION
MODEL TC-200 & 300 AS 31-007
ALLISON DIVISION-GENERAL MOTORS CORPORATION-INDIANAPOLIS, INDIANA



AS 31-008

FOR ALL CONVERTER INSTALLATION DATA NOT SHOWN SEE BASIC INSTALLATION DRAWING AS 31-001 (ADDITIONAL WEIGHT APPROX 34 LBS.)

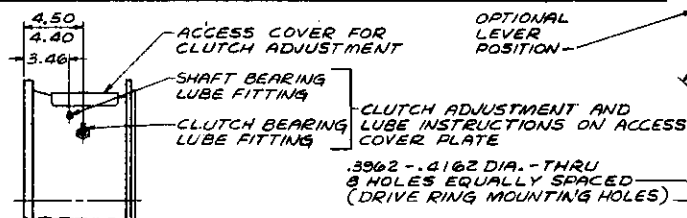
DESIGN CHECKED BY DATE	J			GM GENERAL MOTORS	
	H				
	B				
	F				
	E				
UNLESS NOTED	D			TITLE: INDUSTRIAL OUTPUT WITH HEAVY DUTY BEARINGS MODEL TC-200 & 300 SERIES TORQUE CONVERTER AS 31-008 ALLISON DIVISION-GENERAL MOTORS CORPORATION-INDIANAPOLIS, INDIANA	
	C				
	B				
	A				
BY HUGHES	BY GWEANY	BY BTS			
10-15-62	2-18-63	2-18-63			
SCALE 1	PROJ. ENGR. ST. JOHN	APPL. ENGR. WELCHER			
4 X 5 1/2	2-4-63	2-14-63			



LEVER MAY BE POSITIONED
ON CROSS SHAFT TO SUIT
INSTALLATION REQUIRE-
MENTS. (48 S.A.E.
SERRATIONS ON BOTH
ENDS OF SHAFT)

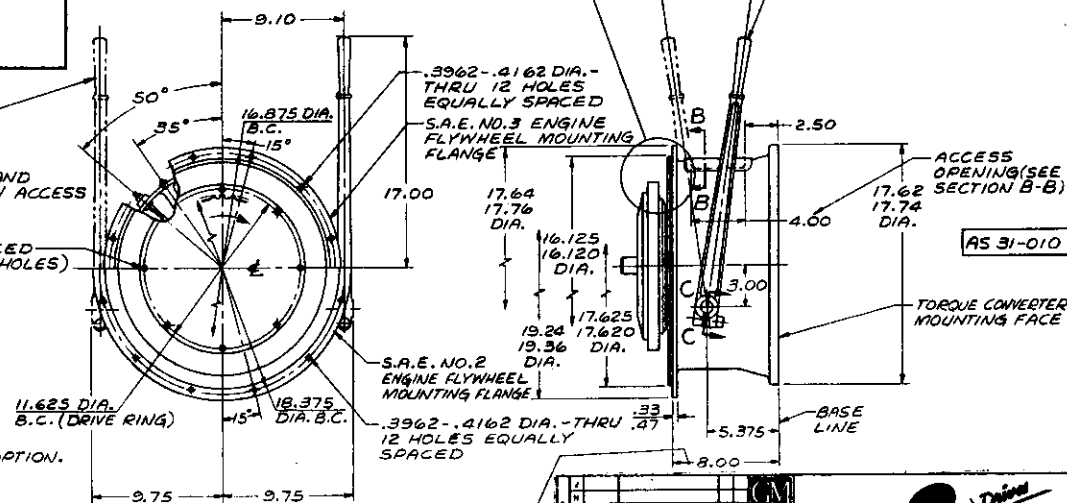
CLUTCH ENGAGED
LEVER POSITION
CLUTCH DISENGAGED
LEVER POSITION

DISCONNECT LEVER
APPROX 44 LB.FT. TORQUE
REQUIRED TO APPLY
CLUTCH WITH THIS LEVER



TCD

OVERCENTER FRONT DISCONNECT CLUTCH OPTION.
FOR ALL CONVERTER INSTALLATION
DATA NOT SHOWN SEE BASIC
INSTALLATION DRAWING NO. AS 31-001
(ADDITIONAL WEIGHT = 116 LBS.)



ADD TO "L" DIMENSIONS
SHOWN ON CHART
AS 00-012 FOR
DISCONNECT CLUTCH
MODELS

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
10 INCH OVERCENTER FRONT DISCONNECT CLUTCH MODEL 300 SERIES TORQUE CONVERTER AS 31-010																																																																																																			

Allison *Automatic Drives*

BASE
LINE

9.93

INTERNAL SPLINE DATA
6 TEETH EQUALLY SPACED
SPACE WIDTH = .140 - .141
I.D. = .480 - .482
R.D. = .5600 - .5615

.03
.06 x 45° CHAMFER

5.250
5.240

.172
MIN.

.69

1.03

2.00

2.250
1.125
1.125
2.250
1.09
2.18
1.6-18 THD. - THRU
4 HOLES

.16
.32
.31 R.
.12 R.

1.497
1.500 DIA. PILOT

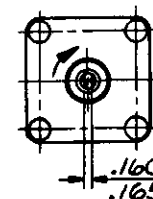
.56

.31

MODEL TCA

DIRECT MOUNTED
GOVERNOR DRIVE

FOR INDUSTRIAL OUTPUT WITH STANDARD OR HEAVY DUTY BEARINGS
DRIVE RATIO = 1:2.5 (STEP UP)
(1:1.69 OPTIONAL)



.50 DIA. HOLE

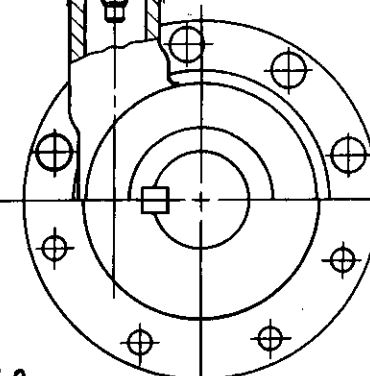
CABLE DRIVE KIT
NO. 6755877

.215
.330

.895
MIN.

6.70

1" - 14 NF 2A THREAD
P.D. = .9519 - .9463
.62 THD. LENGTH

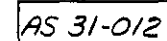


AS 31-011

FOR ALL CONVERTER INSTALLATION
DATA NOT SHOWN SEE BASIC
INSTALLATION DRAWING AS 31-001
(ADDITIONAL WEIGHT APPROX 21 LBS.)

J H F E D C B A	Model	TC-200	TC-300	TC-400	TC-500	TC-600	TC-700	TC-800	TC-900	TC-1000	TC-1200	TC-1500	TC-2000	TC-2500	TC-3000	TC-3500	TC-4000	TC-4500	TC-5000	TC-5500	TC-6000	TC-6500	TC-7000	TC-7500	TC-8000	TC-8500	TC-9000	TC-9500	TC-10000	
	Weight	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	
	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black
	Options	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard
	Notes	GOVERNOR DRIVE OPTION MODEL TC-200 & 300 SERIES TORQUE CONVERTERS AS 31-011																												

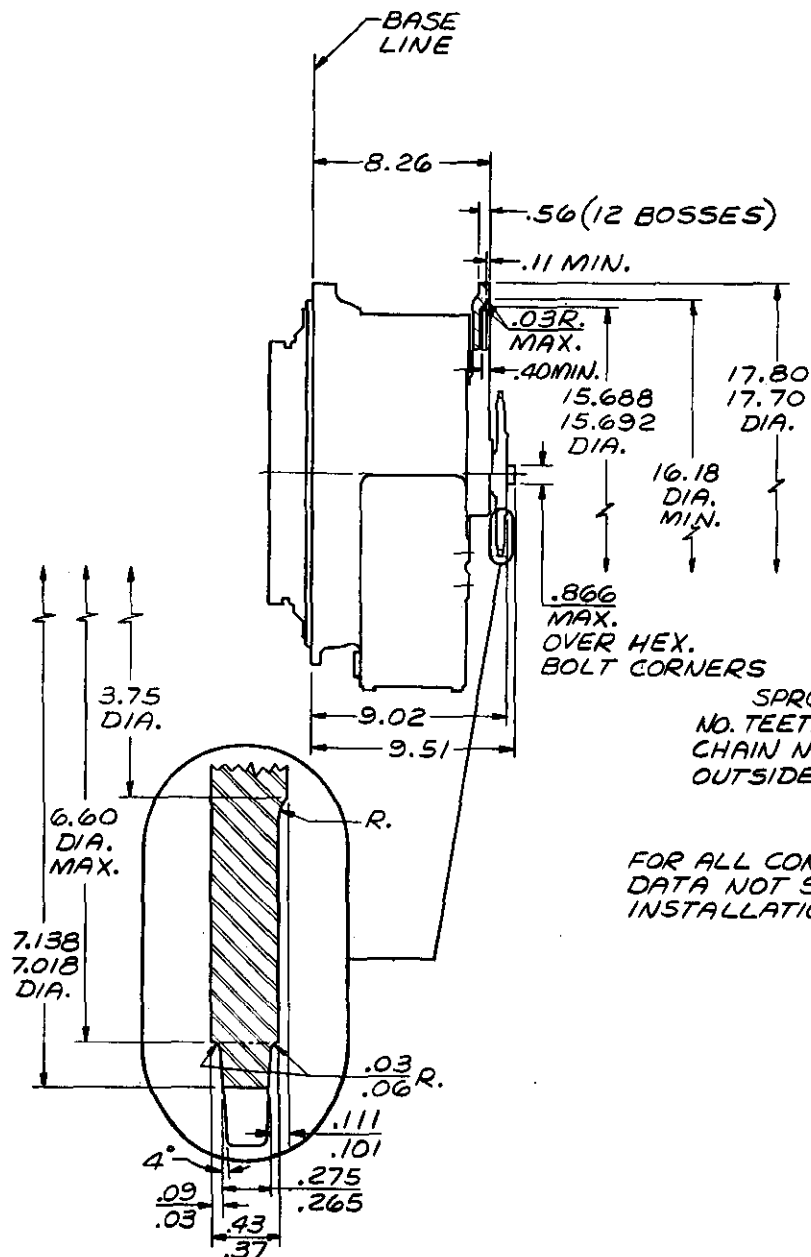




FOR ALL CONVERTER INSTALLATION
DATA NOT SHOWN SEE BASIC
INSTALLATION DRAWING AS 31-001

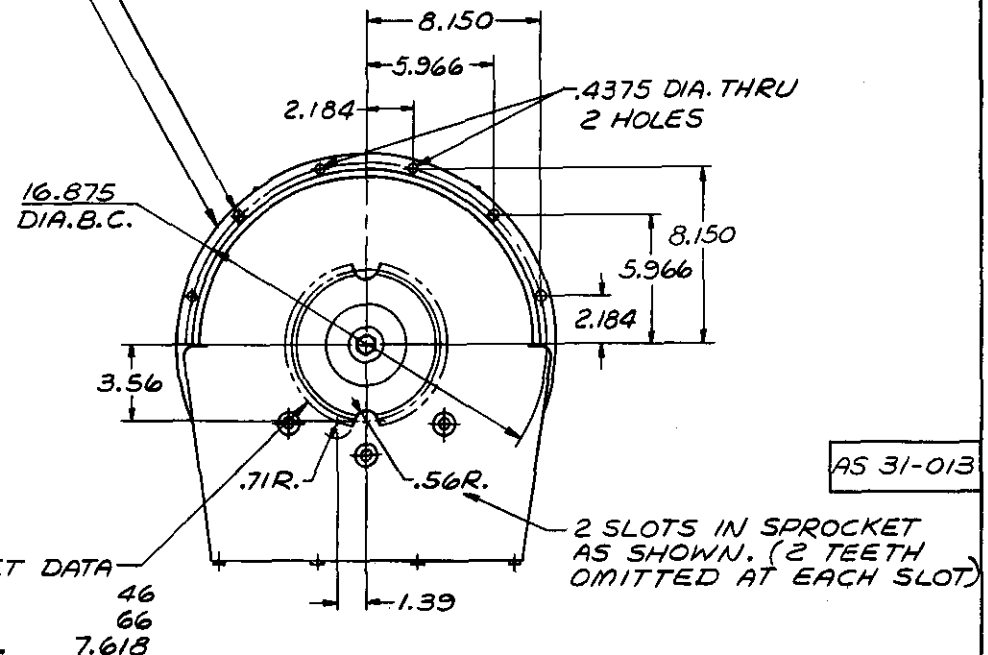
[illegible]

OPTIONAL ADAPTER HOUSING
SHOWN ABOVE &
(REF. PART NO. 6757737)



ENLARGED VIEW 2 X SIZE

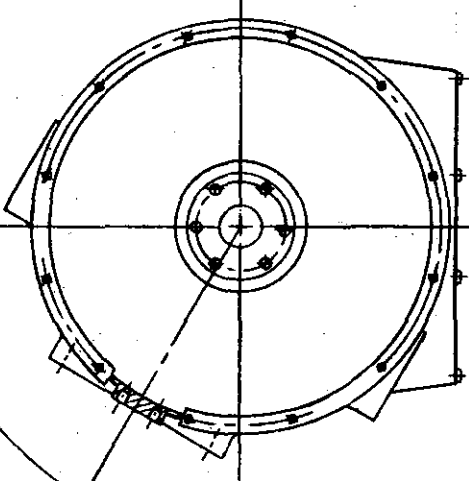
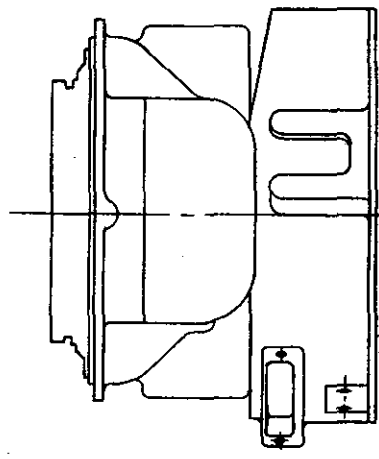
- 8^{1/2} - 16 UNC-2B THD. - THRU
10 HOLES



AS 31-013

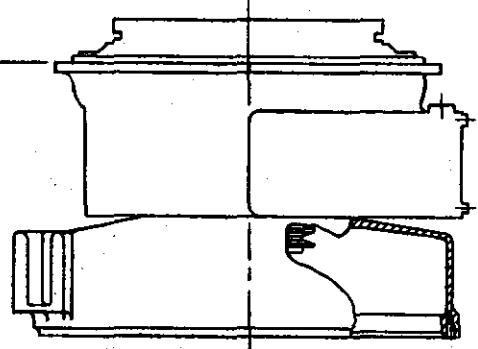
FOR ALL CONVERTER INSTALLATION
DATA NOT SHOWN SEE BASIC
INSTALLATION DRAWING AS 31-001

[illegible]



60°
 OF GOVERNOR DRIVE
 OPENING WITH CLUTCH
 HOUSING ROTATED

BASE LINE



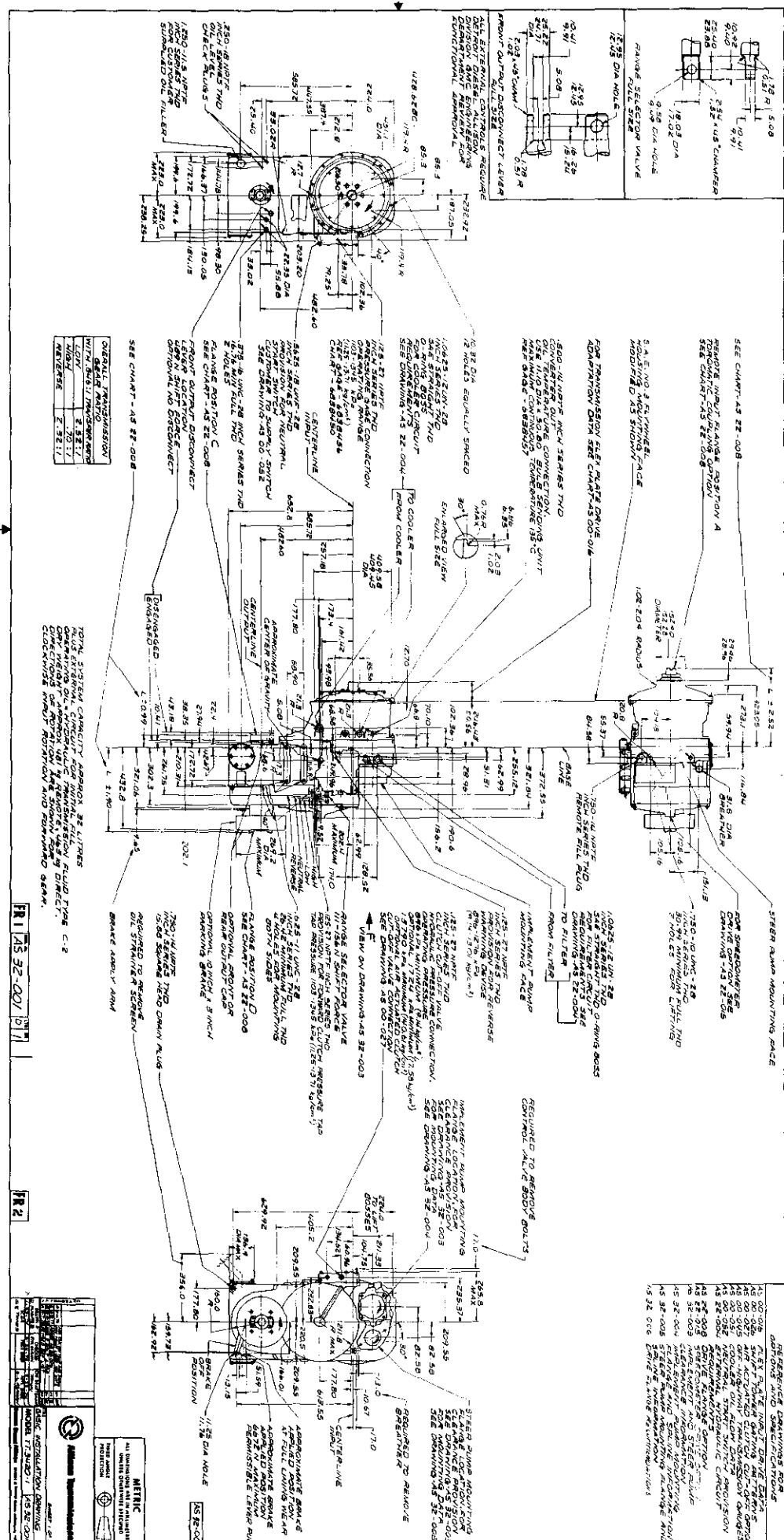
AS 31-015

FOR INSTALLATION DATA NOT SHOWN
 SEE SAE # 2 FLANGE DISCONNECT
 CLUTCH HOUSING ON AS 31-009
 FOR ALL CONVERTER INSTALLATION
 DATA NOT SHOWN SEE BASIC
 INSTALLATION DRAWING AS 31-001

GM		Allison		TORQMATIC® Drive	
TITLE REAR DISCONNECT OUTPUT					
MODEL TC-300		AS 31-015			
ALLISON DIVISION - GENERAL MOTORS CORPORATION - INDIANAPOLIS, INDIANA					

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
SHEET 1 OF 1										DATE 10-1-68										BY WELCHER										CHECKED 10-1-68										APPROVED 10-1-68																																																											





MILLIMETRES TO INCHES

mm MIN/NOM	mm MAX	in. MIN/NOM	in. MAX	mm MIN/NOM	mm MAX	in. MIN/NOM	in. MAX	mm MIN/NOM	mm MAX	in. MIN/NOM	in. MAX
0.51	1.78	.02	.07	66.6		2.70		273.1	269.2	10.752	10.60
0.56		.022		70.10		2.76		302.3		11.90	
	0.76		.03	79.25		3.12		321.06		12.64	
0.99		.039		82.58		3.251		321.84		12.671	
1.02	2.03	.04	.08	84.58		3.33		356.0		14.00	
1.52	2.54	.06	.10	85.3		3.36		366.2		14.417	
1.90		.075		88.90		3.500		372.55		14.668	
2.52		.099		93.98		3.70		387.4		15.25	
5.08		.20		98.30		3.87		405.2		15.954	
6.35	6.86	.25	.27	102.36		4.03		409.45	409.58	16.120	16.125
9.40	10.92	.37	.43	104.75		4.124		419.10		16.50	
9.49	9.58	.3735	.3770	105.16		4.14		428.62		16.875	
9.52		.375		116.84		4.60		432.8		17.04	
9.65		.38		117.80		7.000		447.55		17.62	
9.91	10.41	.39	.41	119.4		4.70		451.10		17.76	
10.16		.40		128.52		5.06		482.60		19.00	
10.32		.4062		130.05		5.12		585.72		23.06	
10.41		.41		134.62		5.30		613.55		24.155	
10.67		.42			136.9		5.39	629.92		24.800	
11.10		.437		144.78		5.70		652.8		25.70	
11.25	11.76	.443	.463	151.13		5.95		ADDITIONS CHG D 1.02 2.04 .040 28.96 29.46 1.140 152.28 152.40 5.995 174.0 6.85 202.7 7.98 220.5 8.68 323.05 12.718			
11.4		.45		154.18		6.07					
12.45	12.95	.49	.51	156.2		6.15					
12.70		.50		159.73		6.289					
13.0		.51		160.0		6.30					
13.15		.518		161.42		6.355					
15.24	16.26	.60	.64	162.92		6.414					
15.88		.625		166.01		6.536					
17.0		.66		166.37		6.55					
17.02	18.03	.67	.71	172.72		6.800					
17.3		.68		173.4		6.825		ADDITIONS CHG D 1.02 2.04 .040 28.96 29.46 1.140 152.28 152.40 5.995 174.0 6.85 202.7 7.98 220.5 8.68 323.05 12.718			
20.8		.82		177.80		7.000					
21.3		.84		184.15		7.25					
22.4		.88		187.05		7.364					
23.88	25.40	.94	1.00	190.6		7.504					
24.71	25.22	.973	.993	199.6		7.86					
25.40		1.00			202.4		9.97				
26.42		1.04		203.20		8.00					
26.67	27.69	1.05	1.09	206.50		8.13					
27.94		1.10		209.55		8.25					
28.96		1.14		210.31		8.28		ADDITIONS CHG D 1.02 2.04 .040 28.96 29.46 1.140 152.28 152.40 5.995 174.0 6.85 202.7 7.98 220.5 8.68 323.05 12.718			
30.99		1.22		211.33		8.32					
31.8		1.25			211.8		8.34				
33.02		1.30		212.8		8.38					
33.78		1.33			223.0		8.78				
35.56		1.40		224.0		8.82					
38.35		1.51		232.83		9.166					
42.67		1.68		232.92		9.17					
43.18		1.70		235.37		9.266					
50.80		2.000		237.91		9.366					
51.31		2.02		238.25		9.38		ADDITIONS CHG D 1.02 2.04 .040 28.96 29.46 1.140 152.28 152.40 5.995 174.0 6.85 202.7 7.98 220.5 8.68 323.05 12.718			
51.59		2.031		241.72		9.516					
55.37		2.18		246.43		9.702					
55.88		2.20		249.96		9.841					
59.94		2.36		255.12		10.044					
60.96		2.40		257.18		10.125					
62.99		2.48		261.75		10.305					
66.8		2.63			265.8		10.463				

METRIC VALUES

463 kg
481 kg
896 - 1,276 kPa
1,724 kPa
6672 N
13,790 kPa
111 - 156 N
489 N
121°C
32 LITRES

EQUIVALENTS

1020 LB
1060 LB
130 - 185 PSI
250 PSI
1500 LB
2000 PSI
25 - 35 LB
110 LB
250°F
8.4 GAL

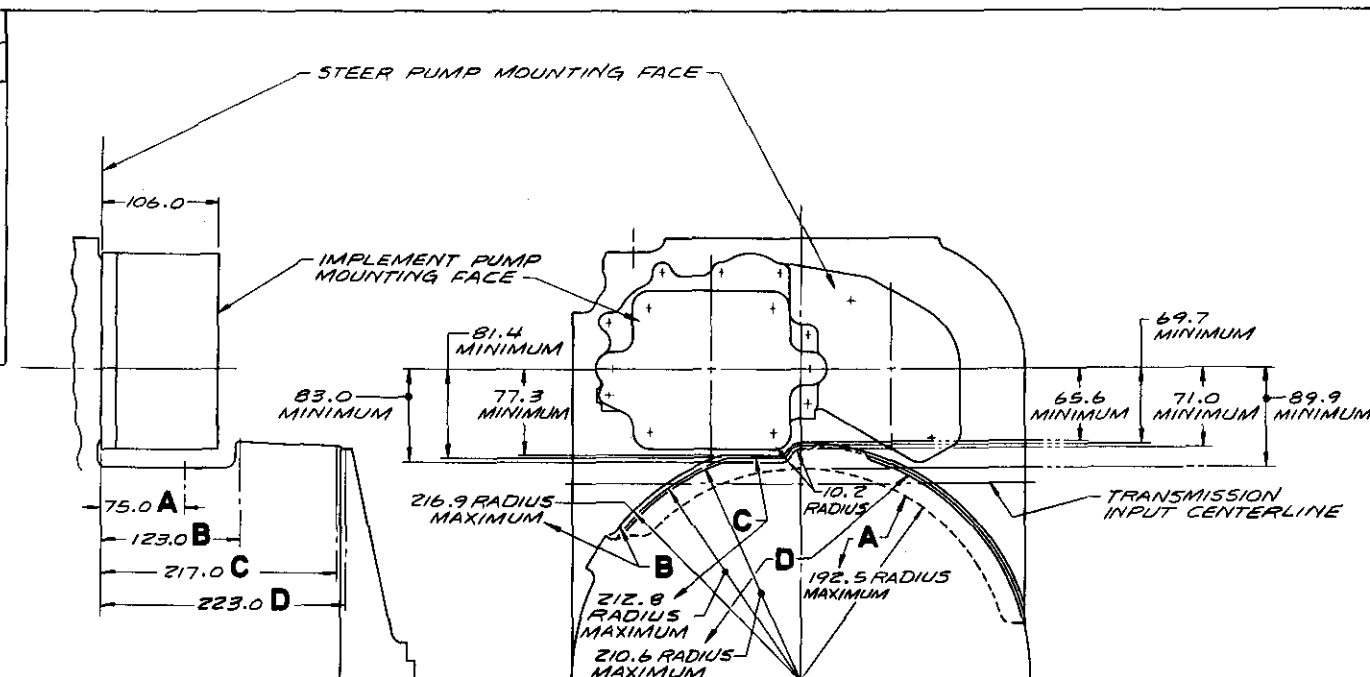
ADDITIONS CHG D
1103 kPa
1345 kPa
135°C

160 PSI
195 PSI
275°F

AS 32-001



MILLIMETRES TO INCHES			
mm MIN/NOM	mm MAX	in. MIN/NOM	in. MAX
10.2		.40	
65.6		2.58	
69.7		2.74	
71.0		2.80	
75.0		2.95	
77.3		3.04	
81.4		3.20	
83.0		3.27	
89.9		3.54	
106.0		4.17	
123.0		4.84	
	192.5		7.58
	210.6		8.29
	212.8		8.38
	216.9		8.54
217.0		8.54	
223.0		8.78	



VIEW AT F ON BASIC INSTALLATION
DRAWING AS 32-001
TRANSMISSION HOUSING OUTLINE SHOWN IN
INCREMENTS FOR CLEARANCE PURPOSES

AS 32-003

METRIC
ALL DIMENSIONS ARE IN MILLIMETRES,
UNLESS OTHERWISE SPECIFIED

THIRD ANGLE
PROJECTION



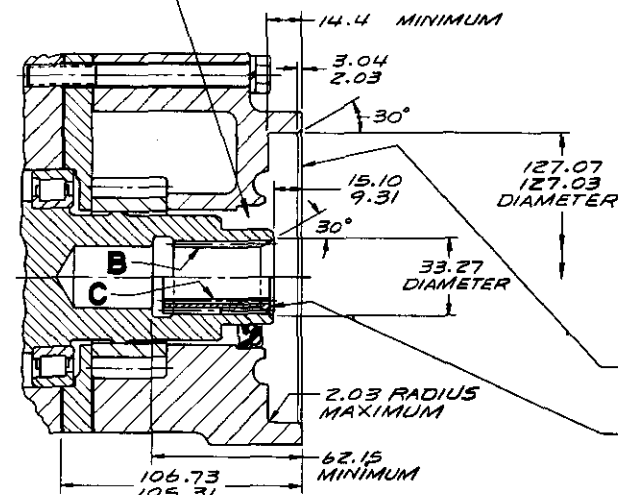
Allison Transmissions

TITLE: IMPLEMENT AND STEER PUMP CLEARANCE INFORMATION	
MODEL: TT 3420-1	AS 32-003
Division of General Motors - Indianapolis, Indiana	

MILLIMETRES TO INCHES			
mm MIN/NOM	mm MAX	in. MIN/NOM	in. MAX
2.03	2.03	.080	.080
9.31	9.04	.366	.356
14.2		.56	
14.4	15.10	.57	.594
21.6		.85	
30.48		1.200	
33.27		1.310	
53.97		2.125	
57.25		2.254	
62.15		2.447	
106.73	106.73	4.202	4.202
127.03	127.07	5.001	5.003
161.92		6.375	

NO SEAL USED WITH 4 BOLT SOCIETY OF
AUTOMOTIVE ENGINEERS C SIZE PAD
WITH POSITIVE SPLINE LUBE.
SEAL MUST BE PROVIDED IF NO
POWER TAKE-OFF IS REQUIRED

POWER TAKE-OFF CAVITY PROVIDED WITH
POSITIVE SPLINE LUBE REQUIRES NON-VENTED
IMPLEMENT PUMP AND CUSTOMER SUPPLIED
GASKETS



SECTION A-A
IMPLEMENT PUMP DRIVE
(SOCIETY OF AUTOMOTIVE ENGINEERS SIZE C
MOUNTING FLANGE) ENGINE DRIVEN POWER TAKE-OFF
DRIVE SPEED = ENGINE SPEED

DIMENSION IN INCHES

INTERNAL SPLINE DATA B

12/24 PITCH 14 TEETH

30° PRESSURE ANGLE

PITCH DIAMETER = 1.1667

ROOT DIAMETER = 1.271-1.284

INSIDE DIAMETER = 1.083-1.088

TRUE INVOLUTE DIAMETER = 1.250

INTERNAL SPLINE DATA C

16/32 PITCH 13 TEETH

30° PRESSURE ANGLE

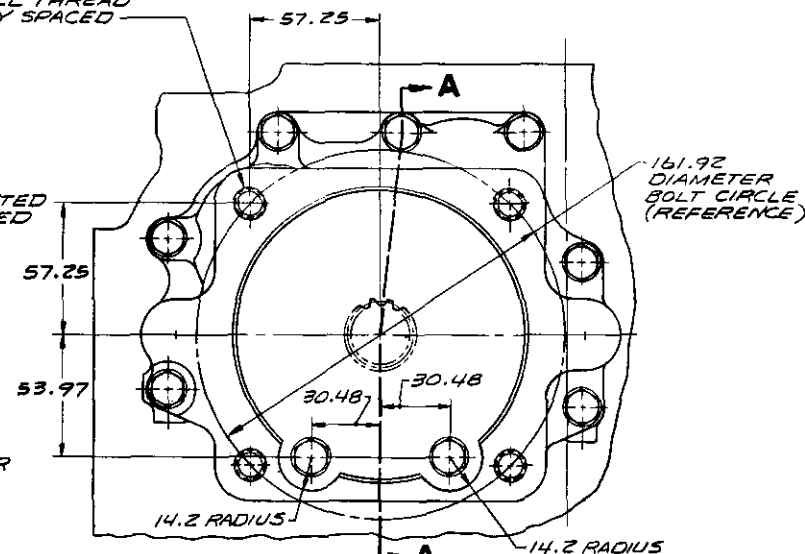
PITCH DIAMETER = .8125

ROOT DIAMETER = .904

INSIDE DIAMETER = .763-.768

TRUE INVOLUTE DIAMETER = .875

.500-13 UNC-2B
INCH SERIES THREAD
21.6 MINIMUM FULL THREAD
4 HOLES EQUALLY SPACED



IMPLEMENT PUMP MOUNTING FLANGE
SOCIETY OF AUTOMOTIVE ENGINEERS C SIZE

POWER TAKE-OFF MOUNTING FACE
FOR PUMP FLANGE

OPTIONAL REDUCER COUPLING
FROM C SIZE TO B SIZE

SPLINE DATA C (6771957 INCLUDED
AS PART OF TRANSMISSION ASSEMBLY
IF SPECIFIED)

METRIC

ALL DIMENSIONS ARE IN MILLIMETRES,
UNLESS OTHERWISE SPECIFIED

THIRD ANGLE
PROJECTION



Allison Transmissions

TITLE: IMPLEMENT PUMP
MOUNTING FLANGE AND
SPLINE INFORMATION

MODEL TT 3420-1 AS 32-004

DETROIT DIESEL Allison Division of General Motors - Indianapolis, Indiana

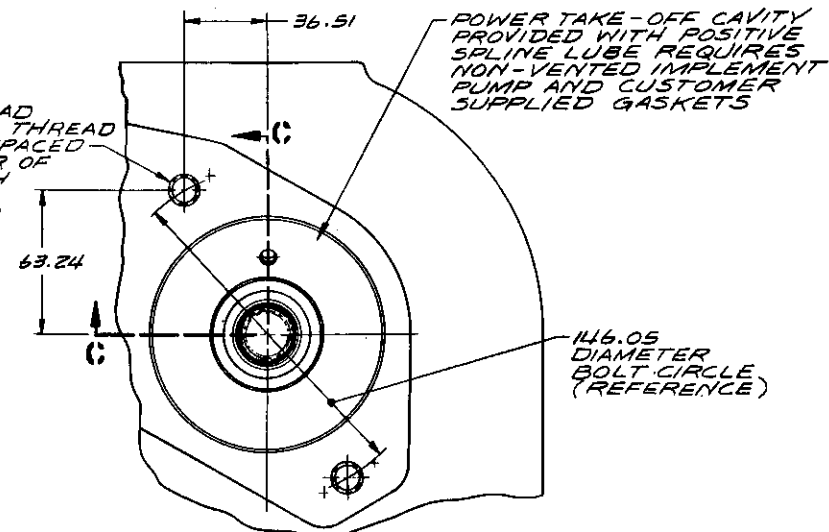
MILLIMETRES TO INCHES			
mm MIN/NOM	mm MAX	in. MIN/NOM	in. MAX
.17		.007	
1.02	1.01	.04	.04
9.14	2.03	.360	.08
10.00	14.02	.3934	.5519
10.92		.430	
21.59		.850	
23.21		.914	
30.48		1.200	
36.512		1.4375	
63.240		2.4898	
101.63	101.67	4.001	4.003
146.05		5.750	

ENGINE DRIVEN
POWER TAKE-OFF DRIVE

NOTE:

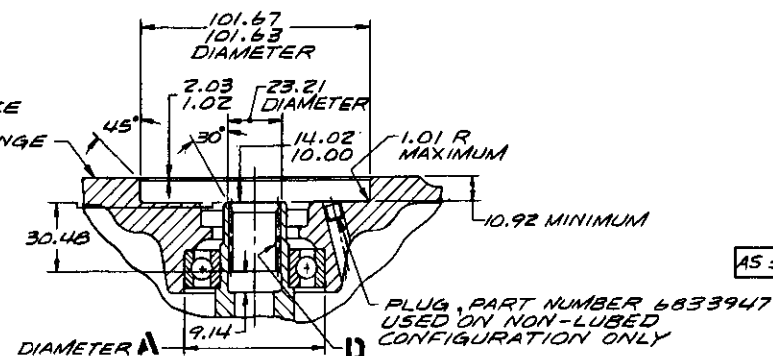
1. STANDARD POWER TAKE-OFF DRIVE RATIO
1.00 X ENGINE SPEED.
2. APPLY MOLY-COAT OR EQUIVALENT GREASE
TO FULL SPLINE LENGTH OF
SHAFT AT ASSEMBLY OF HYDRAULIC PUMP
(SPLINE D)

.500-13 UNC-2B
INCH SERIES THREAD
21.59 MINIMUM FULL THREAD
2 HOLES EQUALLY SPACED
LOCATED WITHIN .17R OF
TRUE POSITION WITH
DATUM DIAMETER A



STEER PUMP MOUNTING FLANGE
SOCIETY OF AUTOMOTIVE ENGINEERS B SIZE

POWER TAKE-OFF MOUNTING FACE
FOR SOCIETY OF AUTOMOTIVE
ENGINEERS B SIZE PUMP FLANGE



SECTION C-C
(SOCIETY OF AUTOMOTIVE ENGINEERS
B SIZE MOUNTING FLANGE)

AS 32-005

DIMENSIONS IN INCHES

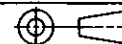
INTERNAL INVOLUTE SPLINE DATA D
FLAT ROOT SIDE FIT
NUMBER OF TEETH 13
PITCH 14/32
PRESSURE ANGLE 30°

IN ACCORDANCE WITH ANS B92.1, CLASS 6

METRIC

ALL DIMENSIONS ARE IN MILLIMETRES,
UNLESS OTHERWISE SPECIFIED

THIRD ANGLE
PROJECTION



Allison Transmissions

STEER PUMP MOUNTING
FLANGE AND SPLINE
INFORMATION

MODEL TT 3420 AS 32-005

REVISIONS
DATE
BY
CHECKED
DATE
BY
APPROVED
DATE
BY

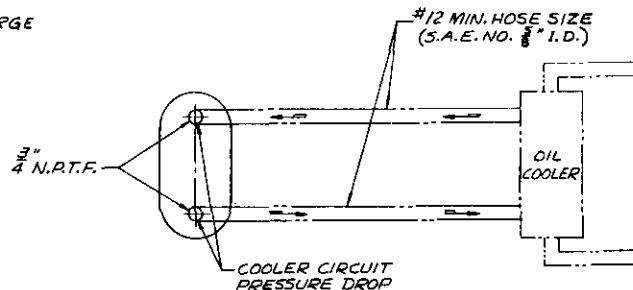
[illegible]

100



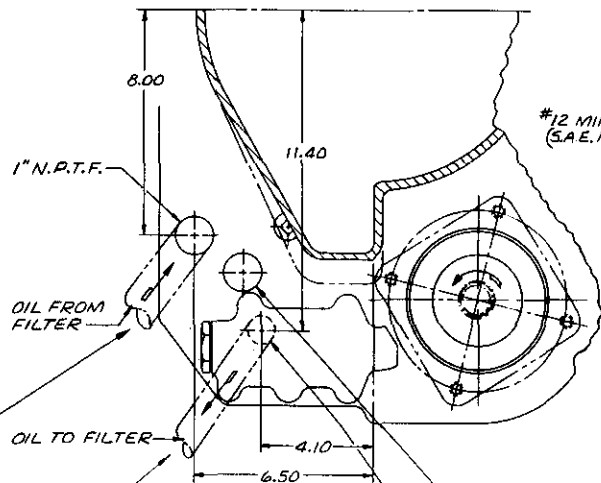
REMOTE OIL FILTER-GENERAL SPECIFICATIONS

TYPE OF FLUID: HYDRAULIC TRANS. FLUID TYPE "C-1"
 OIL FLOW: 30 G.P.M. MAX.
 OPERATING OIL PRESS.: 150 P.S.I. NOM. 300 P.S.I. MAX COLD START SURGE
 OPERATING OIL TEMP.: 250°F. MAX. CONTINUOUS
 OIL PRESS. DROP:
 -INITIAL (CLEAN ELEMENT) 5 P.S.I. MAX.
 -MAX. PRIOR TO SERVICING 15 P.S.I.
 BY-PASS VALVE INCORPORATED IN FILTER ASSEM.
 -INITIAL BY-PASS PRESS. 10-15 P.S.I.
 -FULL BY-PASS PRESS. 20-25 P.S.I.
 DEGREE OF FILTRATION: 44 MICRONS MAX.
 INTERVAL BETWEEN SERVICING: 500-1000 HRS. (DESIRABLE)
 TYPE OF CONTAMINATE:
 EARTH, IRON, STEEL, BRONZE, COPPER & ALUMINUM PARTICLES
 ROCK, COAL & CEMENT DUST.
 METHOD OF INSTALLATION:
 INDEPENDENT MOUNTED WITH $\frac{3}{4}$ " MIN. PIPE TAP CONNECTIONS



COOLER CIRCUIT PRESSURE SPECIFICATIONS:
 1. AT OPERATING TEMPERATURE & MAX. SPEED IN 3RD GEAR
 MAX. ALLOWABLE CONV. OUT OIL PRESS. -65 P.S.I.
 MAX. ALLOWABLE EXTERNAL CIRCUIT PRESS. DROP 40 P.S.I.

REFERENCE:
 1. HOSE SPECIFICATION: SAE 100 R 5
 EXCEPT OPERATING TEMPERATURE
 RANGE FROM -40°F. TO +275°F.
 2. AS 33-005 COOLER OIL FLOW CURVE.

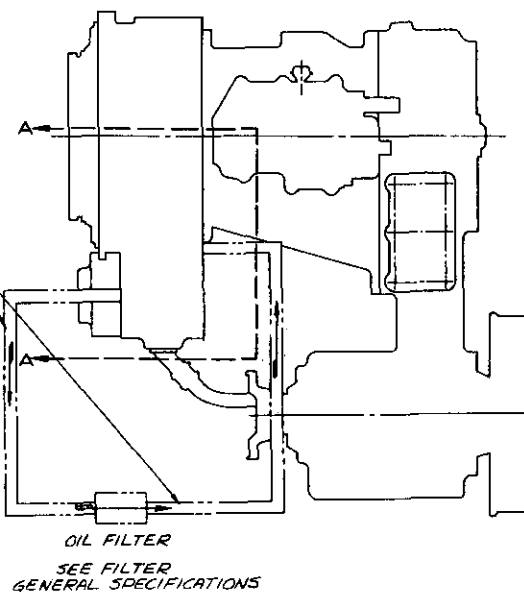


SECTION A-A
 $\frac{1}{2}$ X SIZE

WHEN OIL DIRECTOR TUBE INSTALLED,
 EXTERNAL CONNECTION MUST BE
 MADE BETWEEN THESE POINTS.

1" N.P.T.F.
 NOTE: OIL DIRECTOR TUBE PART NO. 6769851
 REQUIRED AT THIS LOCATION WHEN REMOTE
 FILTER IS USED.

$\frac{3}{4}$ " N.P.T.F. ON FRONT SIDE OF
 CONVERTER HOUSING FOR LINE
 CONNECTION TO FILTER



AS 33-001

PARTS SHOWN IN PHANTOM
 ARE FURNISHED BY CUSTOMER

ITEM	DESCRIPTION	QTY	UNIT
1	ADD OIL TUBE W/FLANGE	1	EA
2	ADD HOSE SPEC. OIL	1	EA
3	DELTA INSTALL. INSTRUCTIONS	1	EA
4	ADD HOSE SPEC. OIL	1	EA
5	ADD HOSE SPEC. OIL	1	EA
6	ADD HOSE SPEC. OIL	1	EA
7	ADD HOSE SPEC. OIL	1	EA
8	ADD HOSE SPEC. OIL	1	EA
9	ADD HOSE SPEC. OIL	1	EA
10	ADD HOSE SPEC. OIL	1	EA
11	ADD HOSE SPEC. OIL	1	EA
12	ADD HOSE SPEC. OIL	1	EA
13	ADD HOSE SPEC. OIL	1	EA
14	ADD HOSE SPEC. OIL	1	EA
15	ADD HOSE SPEC. OIL	1	EA
16	ADD HOSE SPEC. OIL	1	EA
17	ADD HOSE SPEC. OIL	1	EA
18	ADD HOSE SPEC. OIL	1	EA
19	ADD HOSE SPEC. OIL	1	EA
20	ADD HOSE SPEC. OIL	1	EA

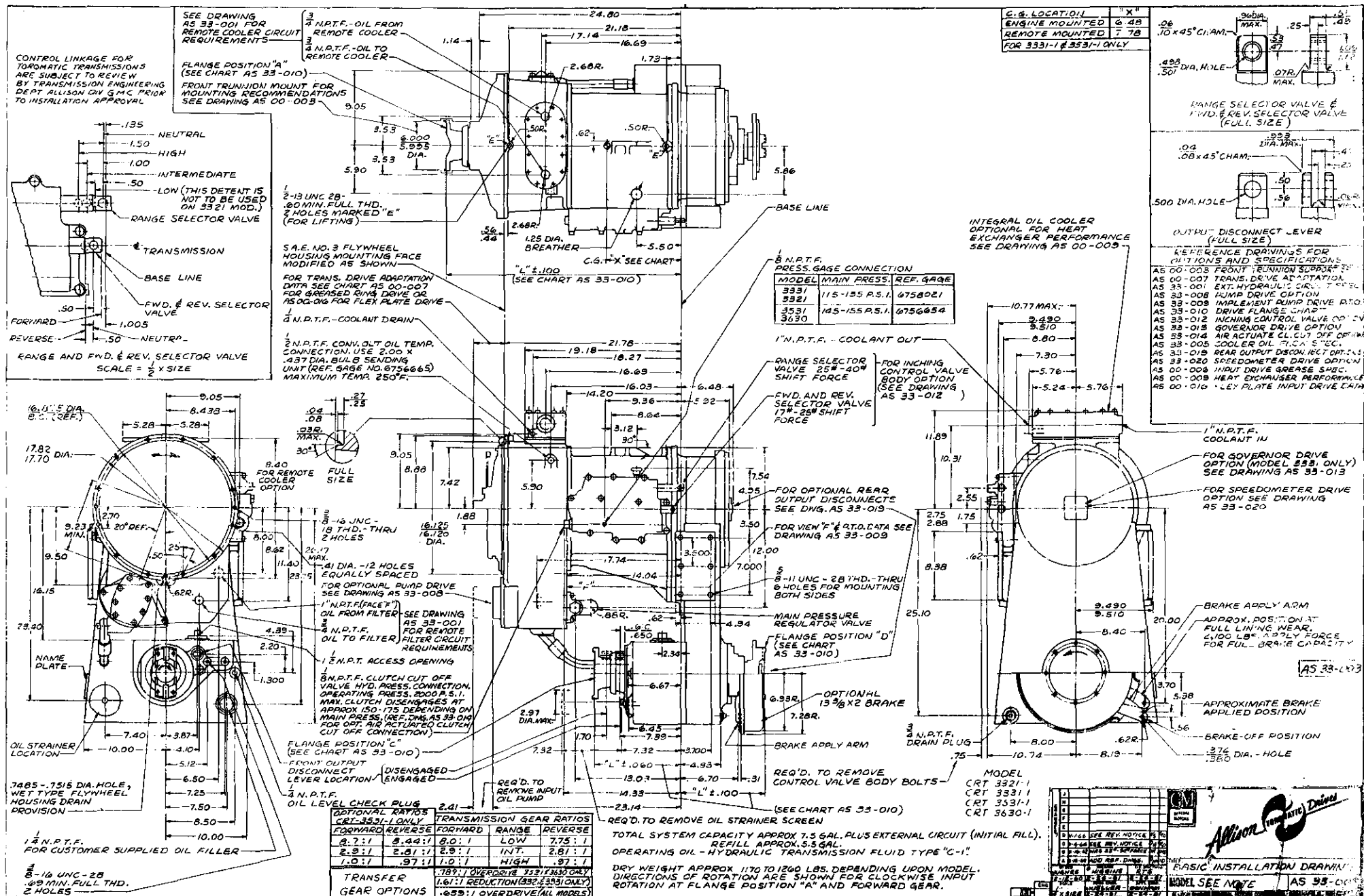
Allison FORMATIC Drives

INSTALLATION DIAGRAM

EXTERNAL HYDRAULIC CIRCUIT REQUIREMENTS

MODEL CRT-3331-1 & 3 & AS 33-001

REF. CS-3377





DATE
7-1-60
BY
Ramsey

AS 33-005

TRANSMISSION ENGINEERING DEPARTMENT

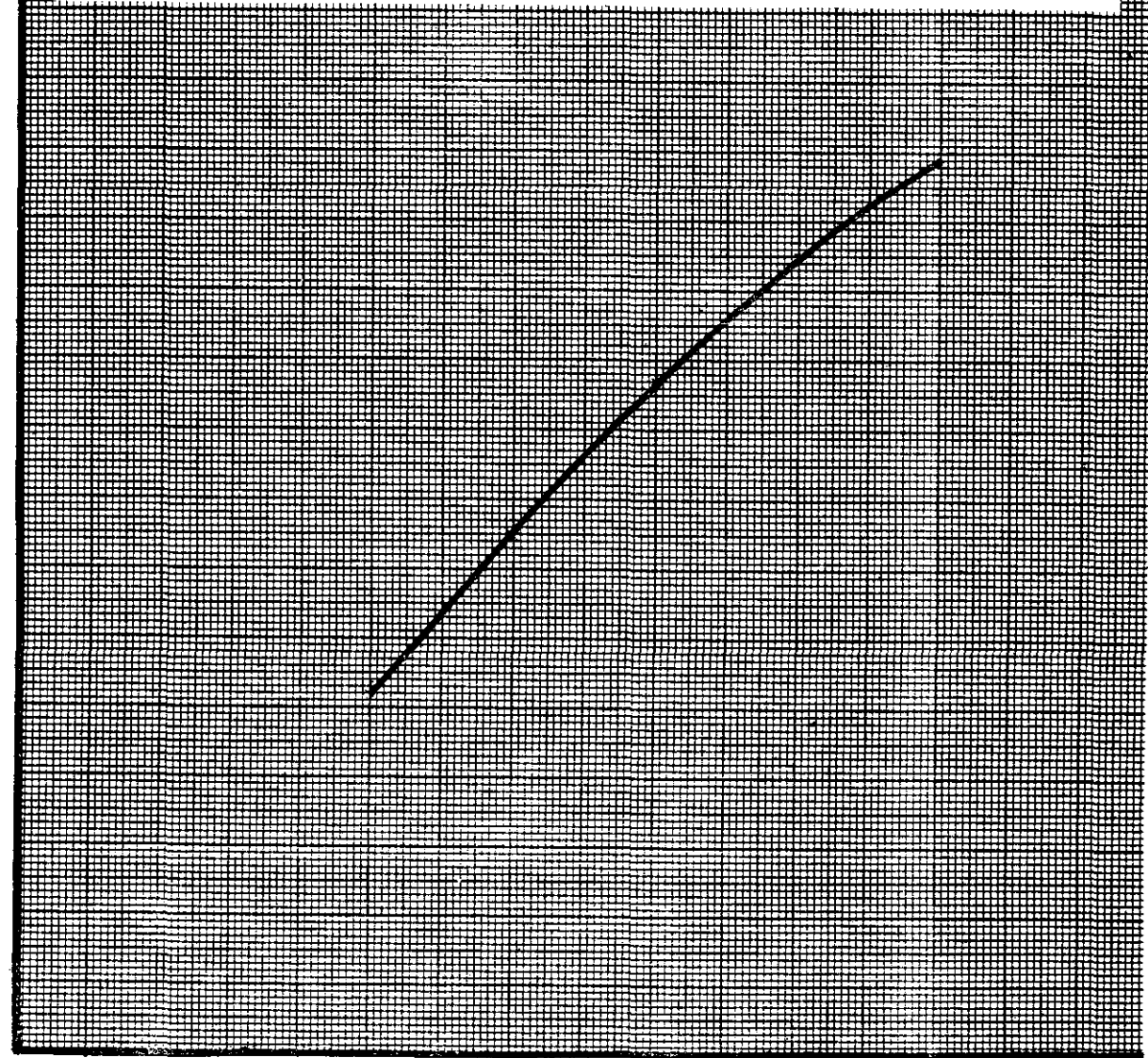
COOLER OIL FLOW OF THE CRT-3321, 3331 AND 3531 TRANSMISSIONS

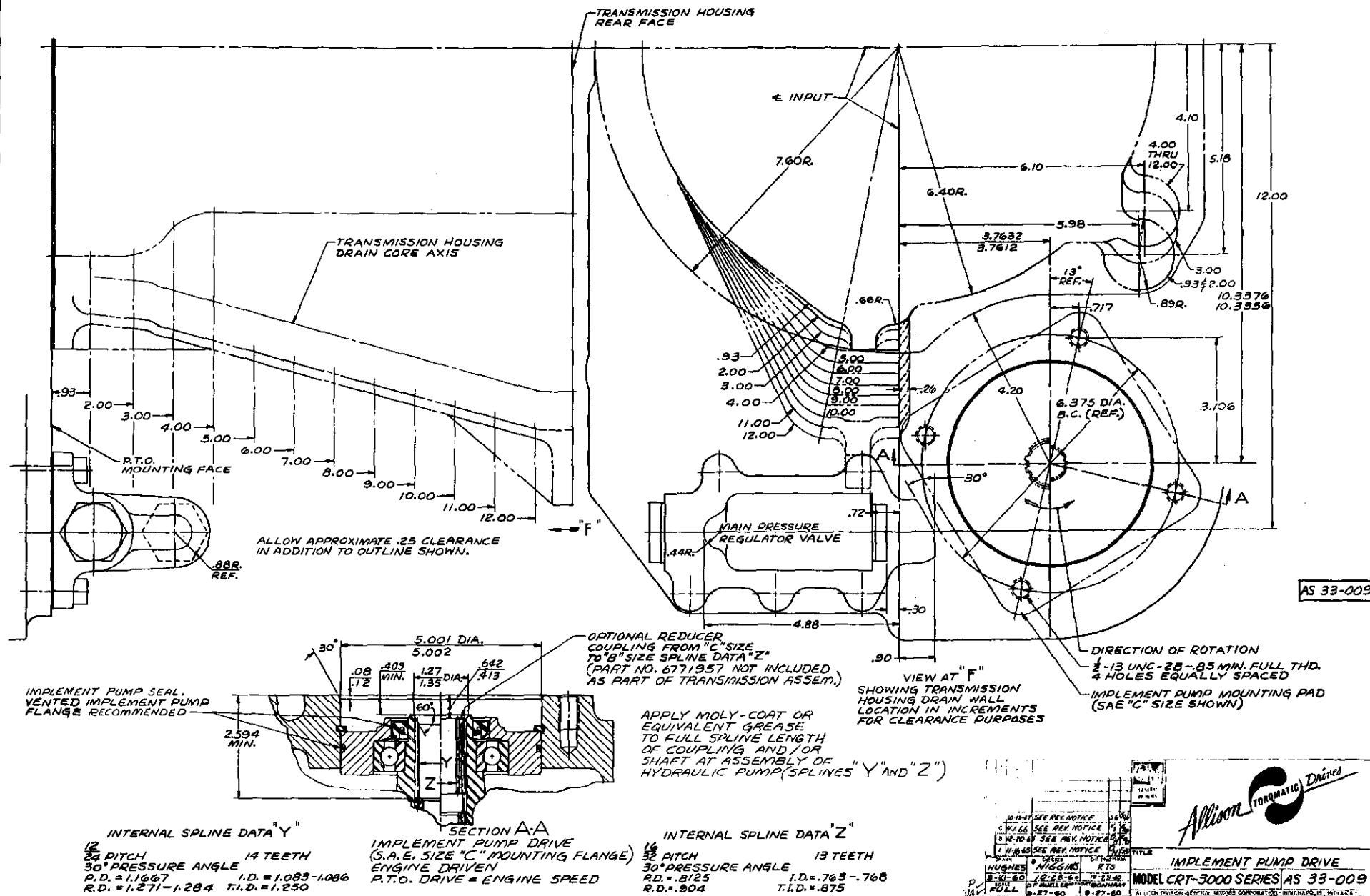
NOTE: MAXIMUM PRESSURE DROP IN COOLER CIRCUIT - 40 P.S.I.
MINIMUM I.D. OF COOLER OIL LINES - 5/8 INCH
OIL TEMPERATURE - 200°F
HYDRAULIC TRANSMISSION FLUID TYPE C-1

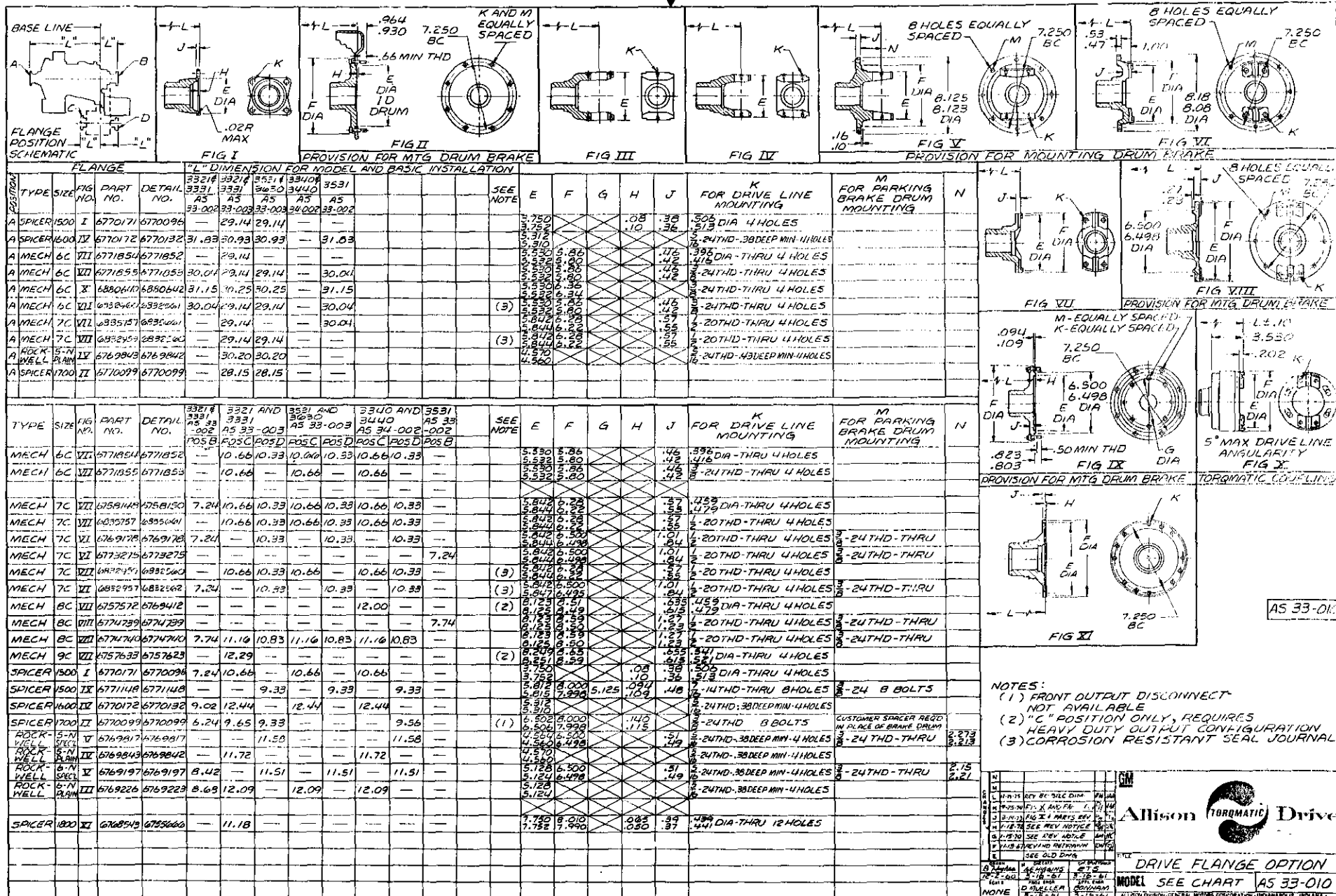
COOLER OIL FLOW - G.P.M.

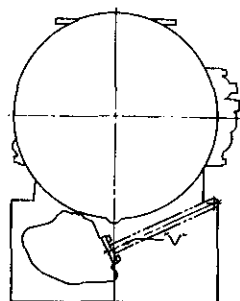
32
28
24
20
16
12
8
4
0

0 400 800 1200 1600 2000 2400 2800
TRANSMISSION INPUT SPEED-RPM



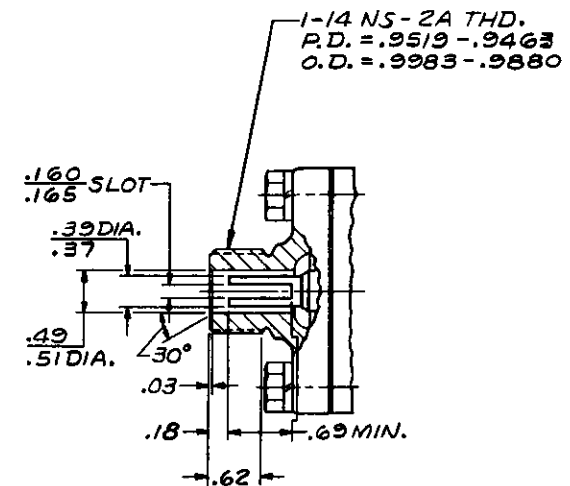
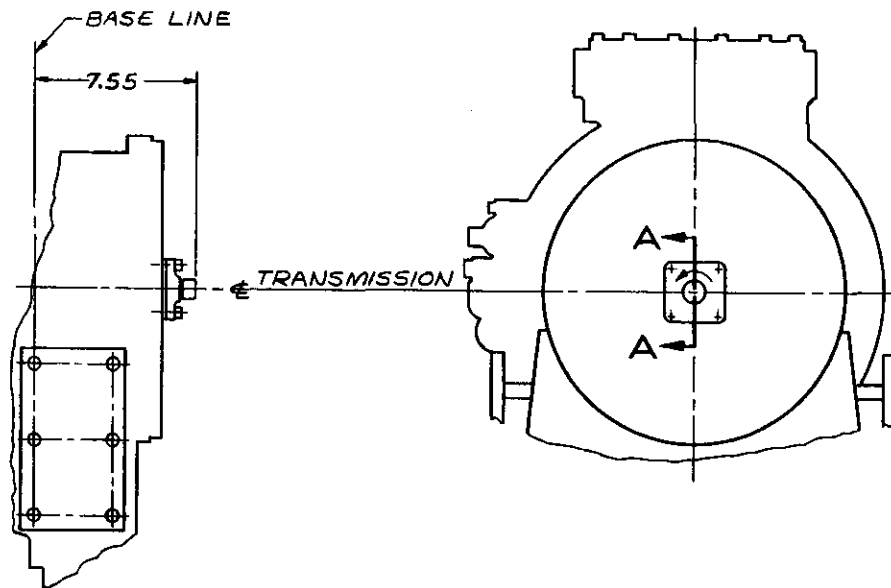






PARTS SHOWN IN PHANTOM ARE
FURNISHED BY CUSTOMER.

[illegible]



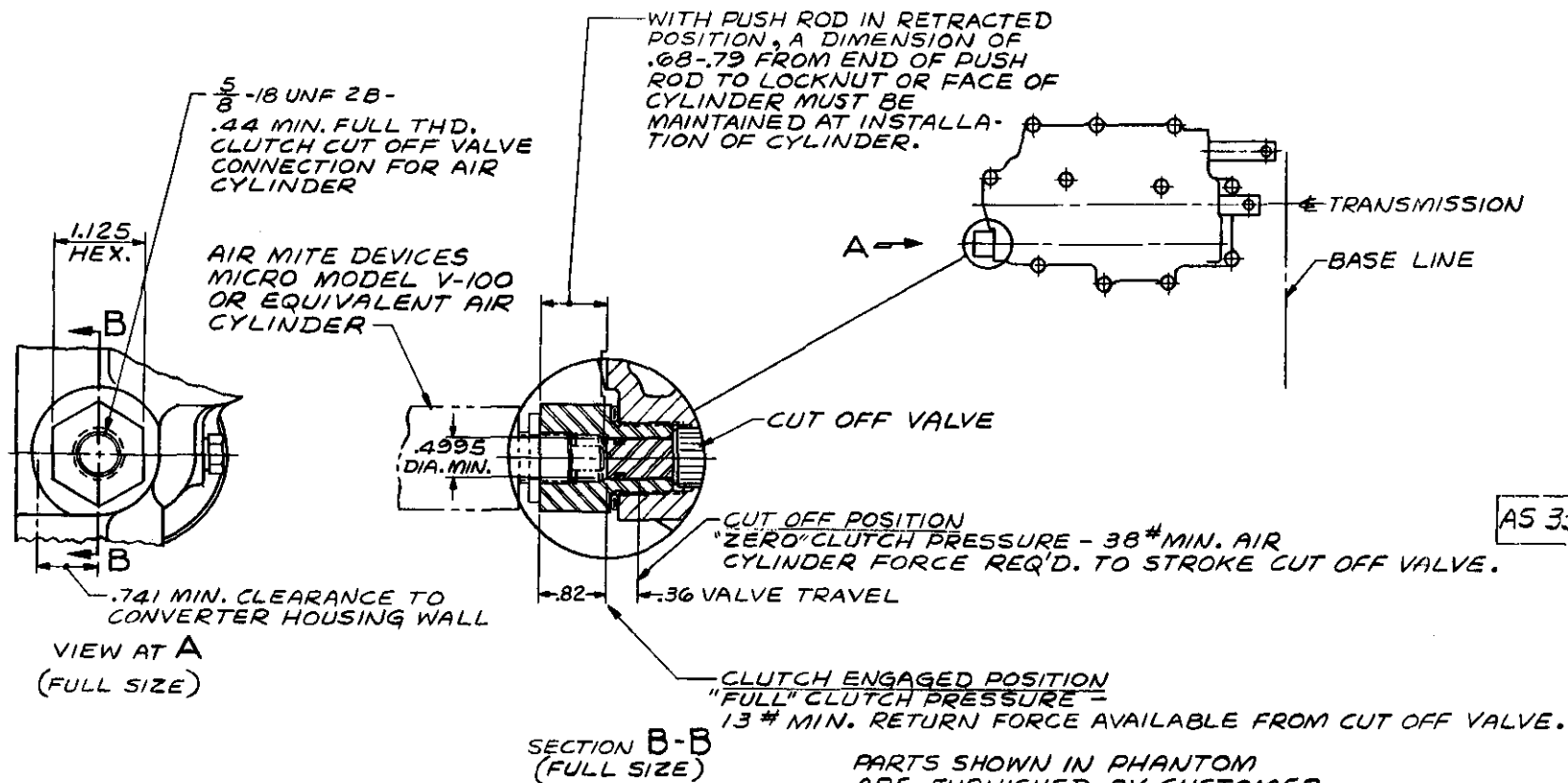
SHAFT SPEED = TURBINE SPEED

SECTION A-A
(FULL SIZE)

AS 33-013

GOVERNOR DRIVE OPTION
(MODEL 3331-1 ONLY)
FOR ALL OTHER TRANSMISSION
INSTALLATION DATA SEE BASIC
INSTALLATION DWG. NO. AS 33-003

CHANGES	J				 
	H				
	G				
	F				
	E				
D					TITLE: GOVERNOR DRIVE OPTION MODEL 3331-1 AS 33-013 ALLISON DIVISION • GENERAL MOTORS CORPORATION • INDIANAPOLIS, INDIANA
C					
B					
A					
DRAWN		DESIGNED		CHKD BY	
HUGHES		HIGGINS		RTS	
2-2-61		2-22-61		2-24-61	
SCALE		PROJ. ENGR.		APPL. ENGR.	
1 X SIZE		D. MUELLER		BONHAM	
		2-6-61		2-6-61	



AS 33-014

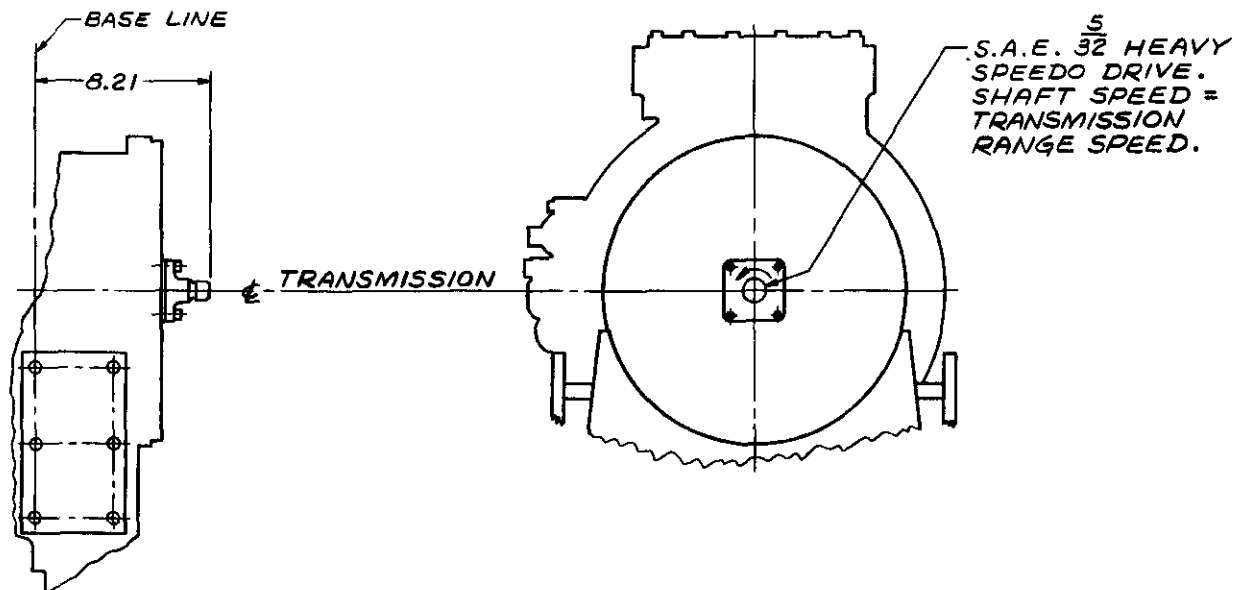
NOTE:

1. AIR MUST NOT BE INTRODUCED INTO VALVE BODY
2. AIR CYLINDER TO ACTUATE VALVE BY MEANS OF PUSH ROD & PROVIDE POSITIVE RETURN FORCE.
3. TRANSMISSION ENGINEERING DEPT'S. APPROVAL IS A PREREQUISITE TO USE OF ACTUATING MECHANISM.

PARTS SHOWN IN PHANTOM ARE FURNISHED BY CUSTOMER FOR ALL OTHER INSTALLATION DATA SEE BASIC INSTALLATION DRAWINGS NO. AS 33-002 AND AS 33-003

AIR ACTUATED CLUTCH CUT-OFF OPTION			
MODEL 3321 3331 3531 AS 33-014			
ALLISON DIVISION - GENERAL MOTORS CORPORATION - INDIANAPOLIS, INDIANA			

REV.	REV. #	REV. DATE	REV. BY	REV. FOR	REV. BY	REV. FOR	REV. BY	REV. FOR
1	1	2-22-61	D. MUELLER	3-24-61	B. S.	3-24-61	B. S.	3-24-61
2	2	2-22-61	D. MUELLER	3-24-61	B. S.	3-24-61	B. S.	3-24-61
3	3	2-22-61	D. MUELLER	3-24-61	B. S.	3-24-61	B. S.	3-24-61

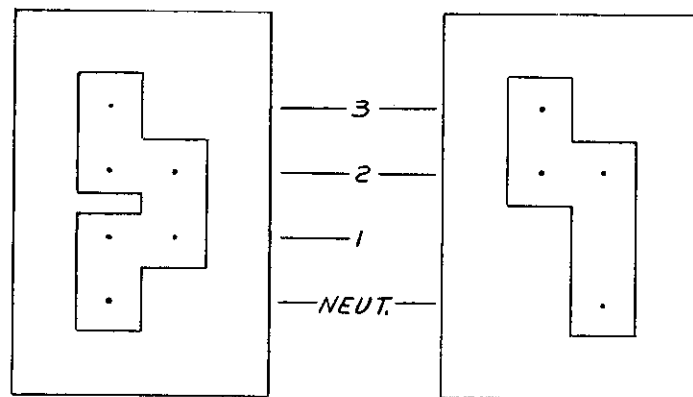


AS 33-020

SPEEDOMETER DRIVE OPTION

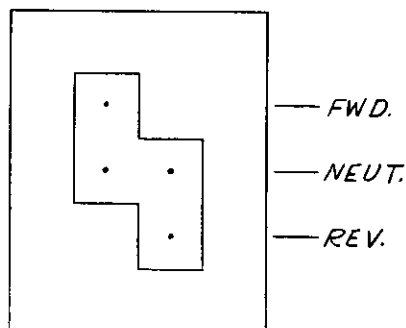
FOR ALL OTHER TRANSMISSION
INSTALLATION DATA SEE BASIC
INSTALLATION DRAWING NO.
AS 33-003

J H G F E D C B A					 
DRAWN HUGHES 1-2-62		CHECKED RLH 1-4-62	GM DESIGN RTS 1-4-62		TITLE: SPEEDOMETER DRIVE OPTION
SCALE MULLER		PROJ. ENGR. MULLER	APPL. ENGR. BONHAM		MODEL 3321-3331-3531 AS 33-020
SIZE 1-2-62		1-2-62	1-2-62		ALLISON DIVISION - GENERAL MOTORS CORPORATION - INDIANAPOLIS, INDIANA



RANGE CONTROL

MODEL 3331 & 3531 MODEL 3321 & 3521



FORWARD & REVERSE CONTROL

CONTROL TOWER MOUNTING MUST BE DESIGNED FOR MINIMUM RELATIVE MOVEMENT WITH TRANSMISSION. MOUNTING TO FRAME OR CROSS MEMBER IS RECOMMENDED WHERE FEASIBLE.

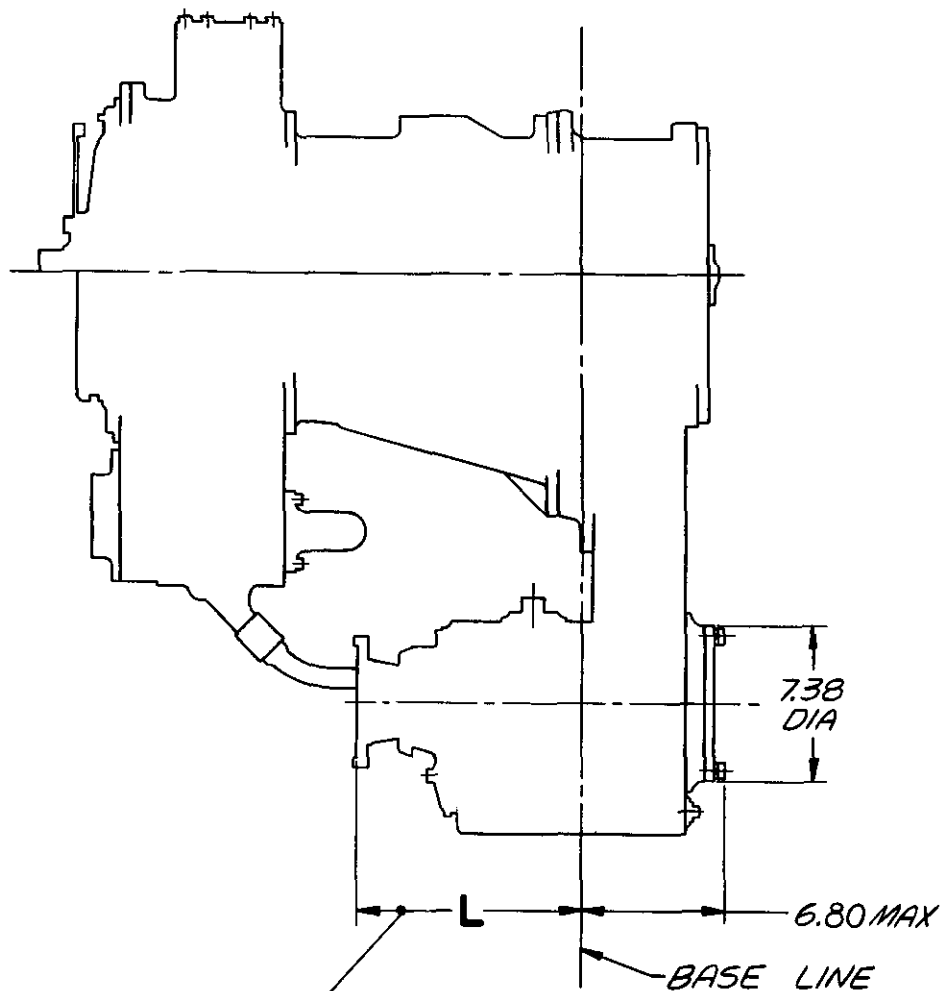
CONTROL TOWER & LINKAGE MUST BE DESIGNED TO ALLOW 10 TO 15% OVER TRAVEL, EACH POSITION OF SHIFT CONTROL LEVER, TO PERMIT TRANSMISSION SHIFT VALVE DETENT TO POSITION LEVER WITHOUT EXTERNAL INTERFERENCE OR BINDING.

FOR REQUIRED SHIFT FORCE AND STROKE SPECIFICATIONS, REFER TO BASIC TRANSMISSION INSTALLATION DRAWING.

VEHICLE MANUFACTURERS TOWER
DESIGN SHOULD BE CORRELATED
WITH ALLISON TRANSMISSION
ENGINEERING.

AS 33-024

J						 GENERAL MOTORS	
H							
G							
F							
E							
D							
C							
B							
A							
SWANBY 6-14-61 NO							
TITLE: SHIFT TOWER GATING PATTERNS MODEL 3000 SERIES						AS33-024 ALLISON DIVISION - GENERAL MOTORS CORPORATION - WARREN, MICH. 48090	



A533-028

FOR INSTALLATION DATA NOT SHOWN
SEE BASIC INSTALLATION DRAWING
A5 33-003

FOR L DIMENSION SEE CHART A5 33-010
POSITION C UNDER A5 33-003 FOR
MODEL 3331.

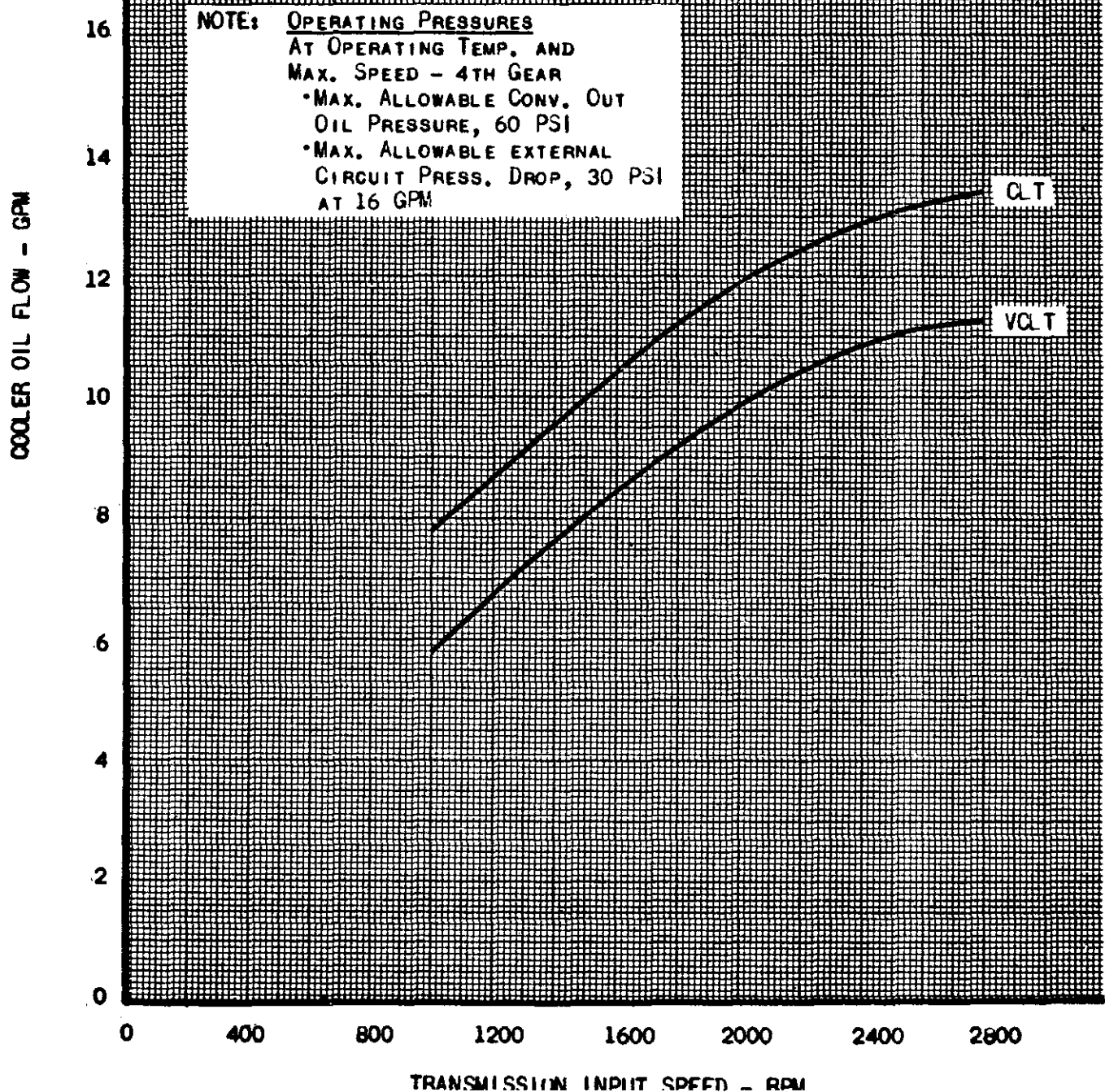
VIEW	J				GM	
	H					
	G					
	F					
	E					
	D					
	C					
	B					
	A					
DRAWN M. A. B. W.		CHECKED G. E. S. S. Y.		CUT DRAFTSMAN V. R. B.		TITLE: FRONT OUTPUT OPTION MODEL CRT 3331-1 ALLISON DIVISION - GENERAL MOTORS CORPORATION - INDIANAPOLIS, INDIANA
11-16-67		12-9-67		12-8-67		
SCALE		PROJ. ENGR. C. R. L.		APPL. ENGR. V. H. L.		
1/4" X SIZE		11-28-67		11-28-67		

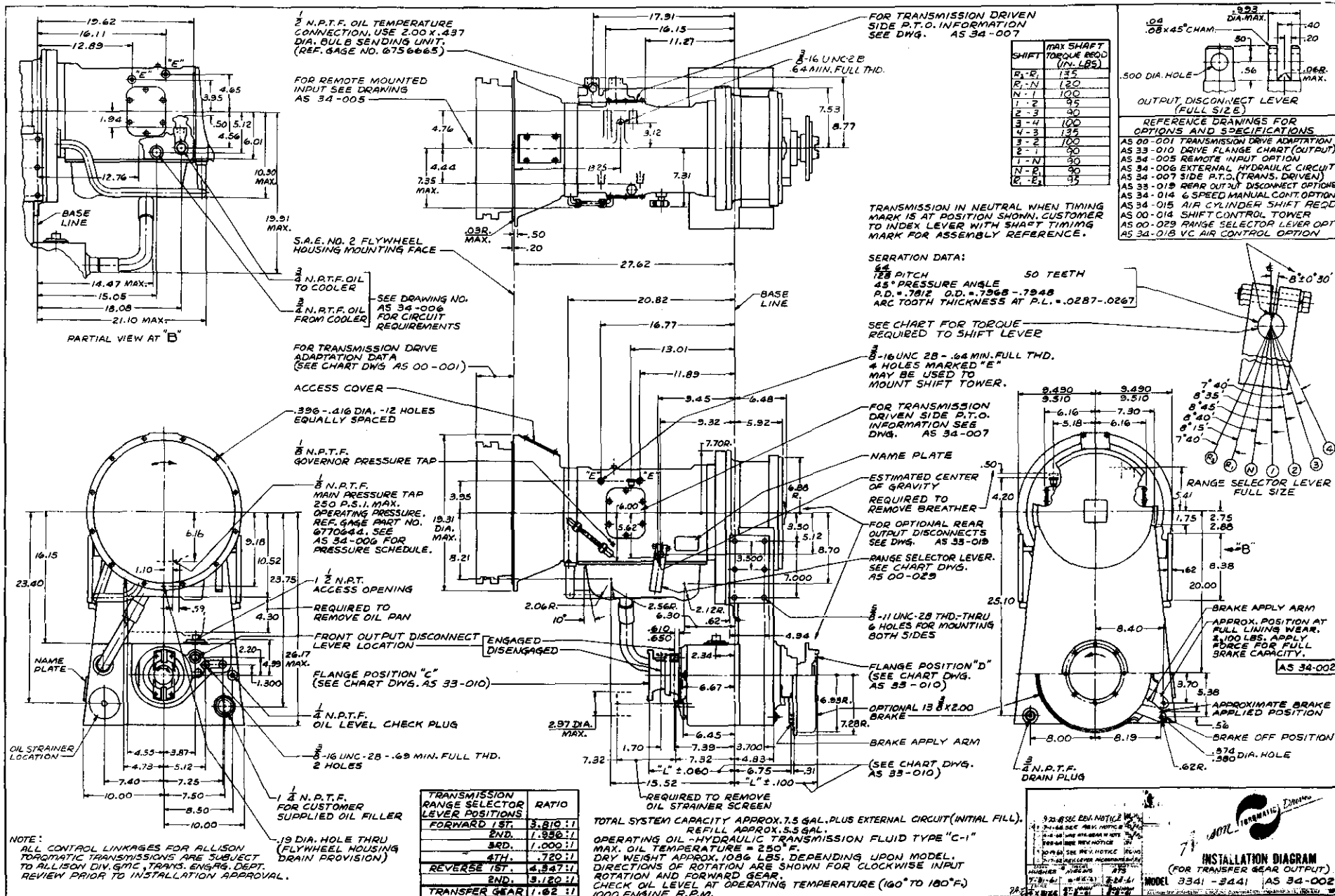


REVISED AND REDRAWN - RAMSEY, 6-8-66
MODEL NUMBERS CHANGED - ASHMAN, 3-16-64

 INDIANAPOLIS, INDIANA	DATE 11-10-61	AS 34-001
	BY RAMSEY	
TRANSMISSION ENGINEERING DEPARTMENT		

COOLER OIL FLOW OF THE CLT AND VCLT-3341 & 3441 TRANSMISSIONS

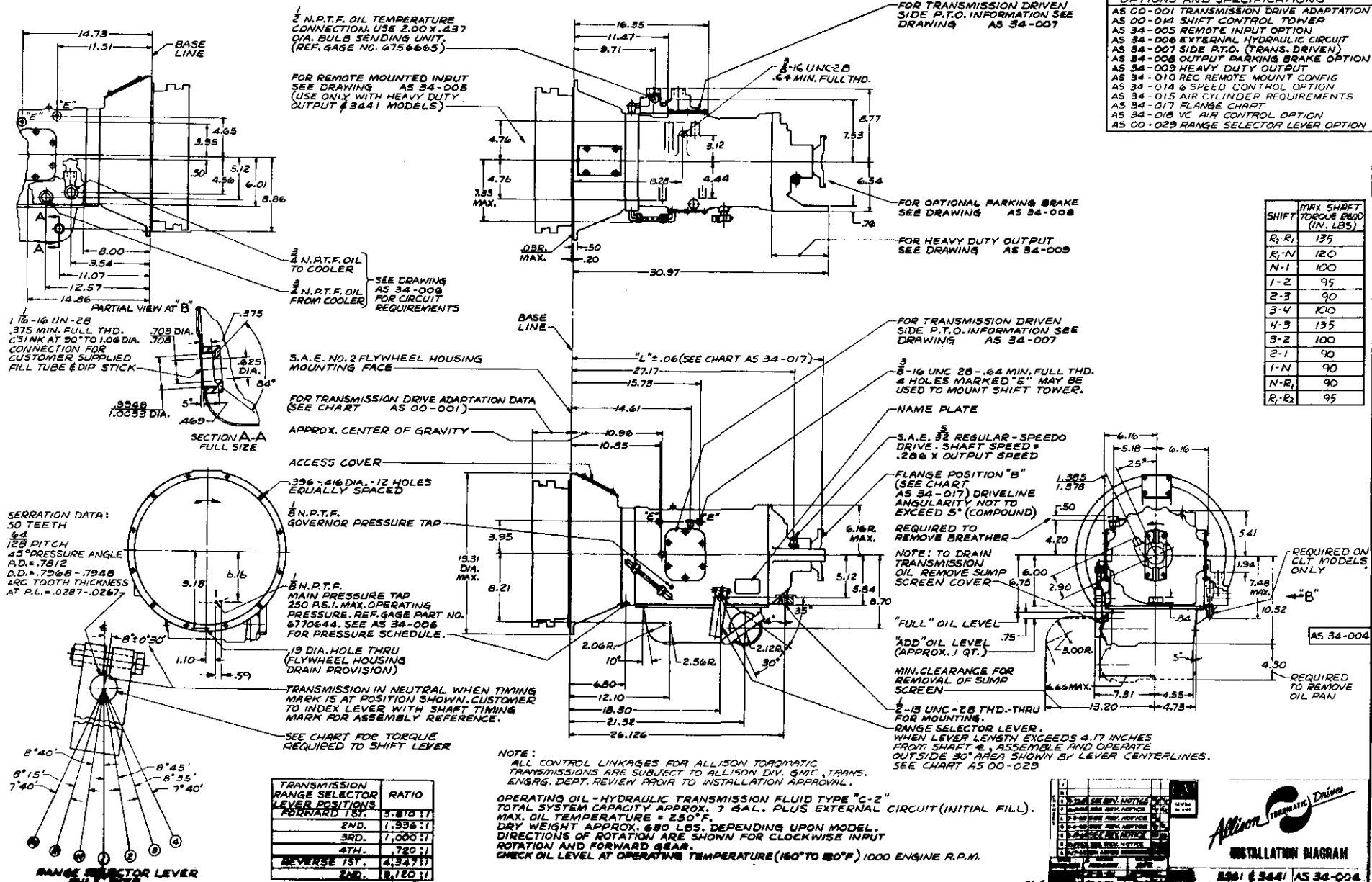




REFERENCE DRAWINGS FOR OPTIONS AND SPECIFICATIONS

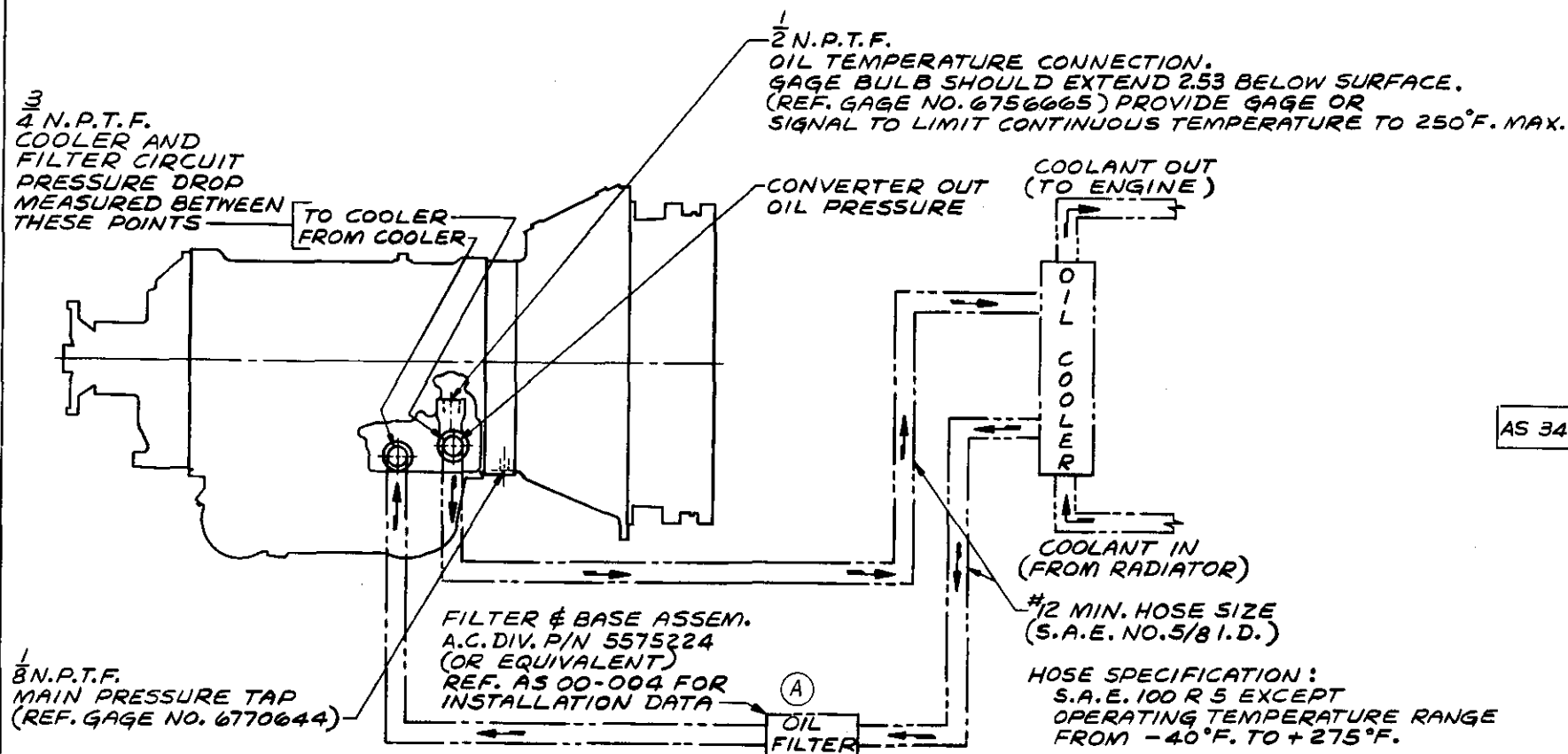
AS 00-001 TRANSMISSION DRIVE ADAPTATION
 AS 00-014 SHIFT CONTROL TOWER
 AS 34-005 REMOTE INPUT OPTION
 AS 34-006 EXTERNAL HYDRAULIC CIRCUIT
 AS 34-007 SIDE P.T.O. (TRANS. DRIVEN)
 AS 34-008 OUTPUT PARKING BRAKE OPTION
 AS 34-009 HEAVY DUTY OUTPUT
 AS 34-010 REC REMOTE MOUNT CONFIG
 AS 34-014 6 SPEED CONTROL OPTION
 AS 34-015 AIR CYLINDER REQUIREMENTS
 AS 34-017 FLANGE CHART
 AS 34-018 VC AIR CONTROL OPTION
 AS 00-029 RANGE SELECTOR LEVER OPTION

SHIFT	MAX SHAFT TORQUE REQD (IN. LBS)
R ₂ -R ₁	135
R ₃ -N	120
N-1	100
1-2	95
2-3	90
3-4	100
4-3	135
3-2	100
2-1	90
1-N	90
N-R ₁	90
R ₁ -R ₂	95



PRESSURE SCHEDULE		
GEAR	MAIN PR. (LT MODELS)	MAIN PR. (CLT MODELS)
FORWARD STALL	165-190 P.S.I.	150-170 P.S.I.
NO LOAD	100-140 P.S.I.	100-140 P.S.I.
REVERSE STALL	230-250 P.S.I.	210-230 P.S.I.
NO LOAD	165-210 P.S.I.	150-200 P.S.I.

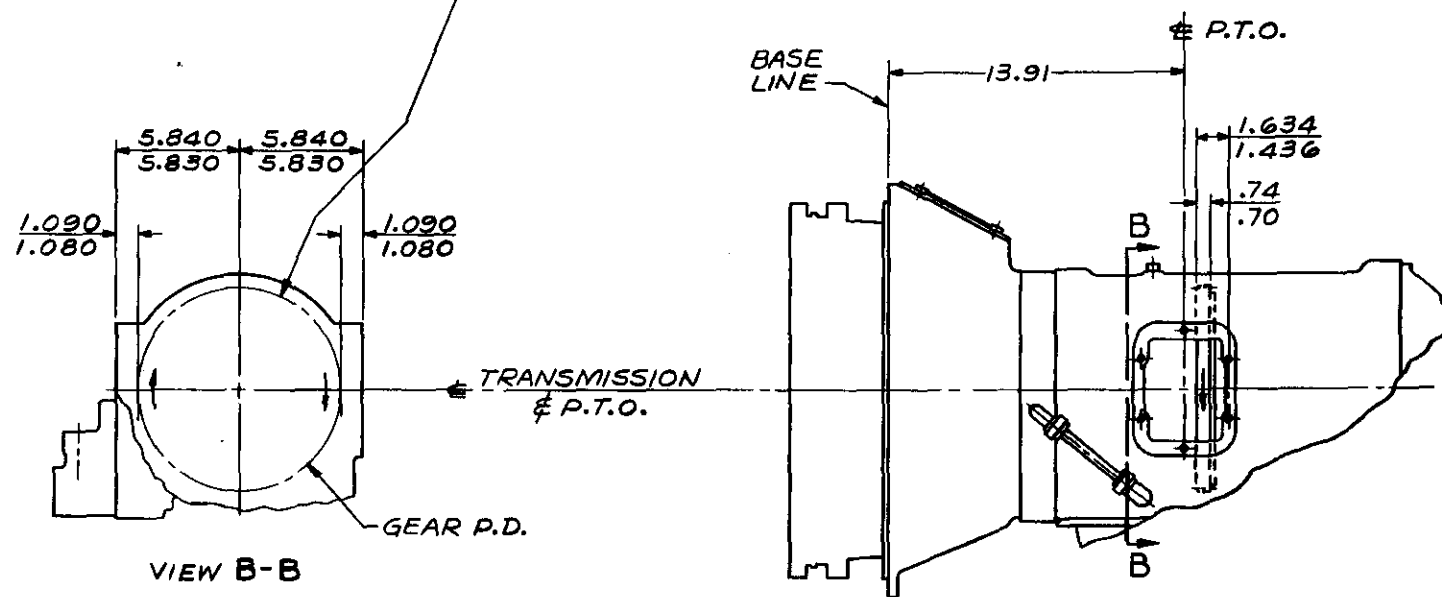
COOLER CIRCUIT PRESSURE SPECIFICATIONS
 AT OPERATING TEMPERATURE & MAX. SPEED 4TH. GEAR
 MAX. ALLOWABLE CONVERTER
 OUT OIL PRESSURE ----- 60 P.S.I.
 MAX. ALLOWABLE COOLER & FILTER
 CIRCUIT PRESSURE DROP ----- 30 P.S.I.
 REFERENCE:
 AS 34-001 CURVE FOR COOLER &
 FILTER OIL FLOW.



PARTS SHOWN IN PHANTOM
ARE FURNISHED BY CUSTOMER

J		GM		Allison <i>Automatic Drives</i>
H		GENERAL MOTORS		
G				EXTERNAL HYDRAULIC CIRCUIT REQUIREMENTS
F				
E				MODEL 3340 & 3440 AS 34-006
D				
C				ALLISON DIVISION-GENERAL MOTORS CORPORATION-INDIANAPOLIS, INDIANA
B				
A		SEE REV. NOTE 10-9-61		
DATE	BY	DATE	BY	
7-6-61	R.K.	10-5-61	10-9-61	
SCALE	DRG. ENGR.	APPL. ENGR.		
4X SIZE	ST. JOHN	BONHAM		
	7-17-61	9-22-61		

DRIVE GEAR DATA:
 6/8 PITCH - 20° PRESSURE ANGLE
 9.500 P.D., 57 TEETH
 AFTER P.T.O. INSTALLATION, BACKLASH OF .005 TO .025
 IS REQUIRED BETWEEN THIS GEAR & P.T.O. DRIVEN GEAR.
 SEE CHART FOR DRIVE GEAR SPEEDS VS.
 TRANSMISSION RANGE POSITIONS.



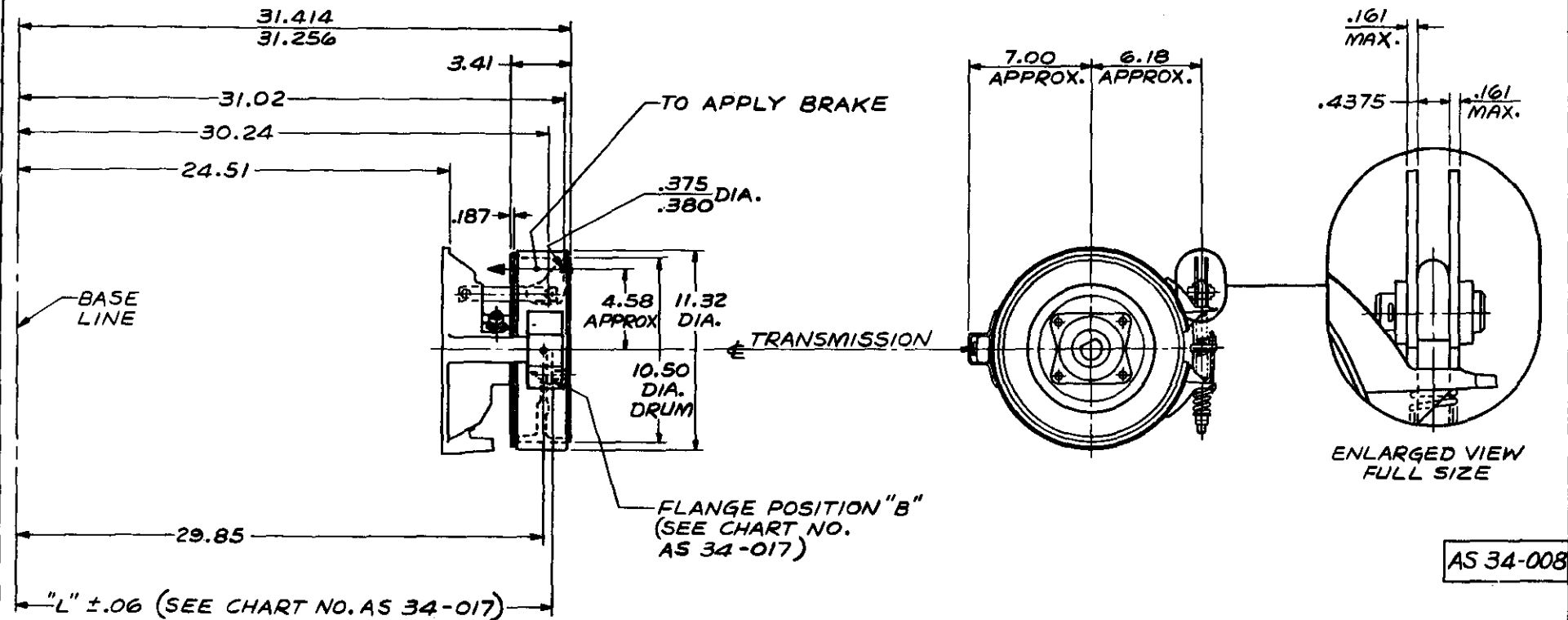
AS 34-007

OPTIONAL SIDE P.T.O.
 MOUNTING FLANGE (BOTH SIDES)
 S.A.E. REGULAR DUTY TYPE
 (FOR ALL OTHER TRANSMISSION
 INSTALLATION DATA SEE BASIC
 INSTALLATION DWG. NO. AS 34-004)

TRANSMISSION RANGE POSITION	P.T.O. DRIVE GEAR SPEED
REV. 1, NEUT., 1ST., 2ND. & 3RD.	1.0 X TURBINE SHAFT R.P.M.
REV. 2 & 4TH.	1.39 X TURBINE SHAFT R.P.M.

J H G F E D C B A	3-20-64	SEE REV. NOTICE	WH 18		
	DESIGNED BY	DESIGNED BY	DESIGNED BY		
	7-11-67	8-8-67	8-9-67		
	SCALE	PROJ. ENGR.	APPL. ENGR.		
	4 X 5/8	7-17-67	7-18-67		

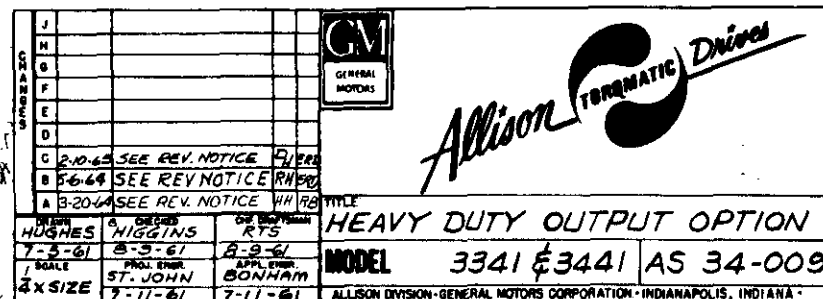
TITLE: SIDE P.T.O. - TRANSMISSION DRIVEN		
MODEL	3341 & 3441	AS 34-007
ALLISON DIVISION - GENERAL MOTORS CORPORATION - INDIANAPOLIS, INDIANA		



OPTIONAL 10 1/2 X 3 BRAKE
(FOR ALL OTHER TRANSMISSION
INSTALLATION DATA SEE BASIC
INSTALLATION DRAWING NO. AS 34-004.)

J						GM		GENERAL MOTORS	
H									
G									
F									
E									
D									
C									
B		2-10-68		WAS CHART NO. AS 00-011		DN		PRG	
A		3-20-66		SEE REV. NOTICE		WHRS		TITLE	
NAME		HUGHES		DESIGN		HIGGINS		DATE	
SCALE		7-10-61		8-3-61		8-3-61		10 1/2 X 3 PARKING BRAKE OPTION	
1 X SIZE		ST. JOHN		APPL. ENGR.		BONHAM		MODEL 3341 & 3361 AS 34-008	
		7-11-61		7-11-61		7-11-61		ALLISON DIVISION-GENERAL MOTORS CORPORATION-INDIANAPOLIS, INDIANA	

PA-B



5
8-18 UNF-2B-.44 MIN. FULL THREAD
OPENING FOR AIR VALVE INSTALLATION

AIR MITE DEVICES
MICRO MODEL V-100-AC
OR EQUIVALENT AIR
CYLINDER.

P.T.O.
PAD

13.91

BASE
LINE

1.62

A

1.35

B

B

A

14.85

PARTIAL VIEW AT "B"

.4995
DIA. MIN.

SECTION B-B
FULL SIZE

WITH PUSH ROD IN RETRACTED POSITION,
A DIMENSION OF .68-.79 FROM END OF
PUSH ROD TO LOCKNUT OR FACE OF
CYLINDER MUST BE MAINTAINED AT
INSTALLATION OF CYLINDER.

FOR HIGH CONVERTER CAPACITY:
"ZERO" CYLINDER FORCE.
PLUNGER IN RETRACTED POSITION

FOR LOW CONVERTER CAPACITY:
25 LB. MINIMUM AIR CYLINDER
FORCE REQUIRED. 1/2 INCH
MINIMUM AVAILABLE PLUNGER
TRAVEL REQUIRED.

TRANSMISSION
& R.T.O.

1/4 N.P.T.F.
MAIN PRESSURE
CHECK POINT

4.10

8.19

5.840

5.830

8.20

SECTION A-A

8.47

8.66

AS 34-018

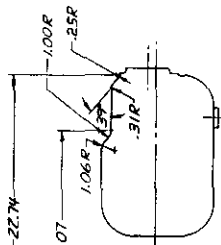
PARTS SHOWN IN PHANTOM ARE
TO BE FURNISHED BY CUSTOMER

FOR ALL TRANSMISSION
DATA NOT SHOWN SEE BASIC
INSTALLATION DRAWING AS 34-004
& AS 34-002

NOTE:

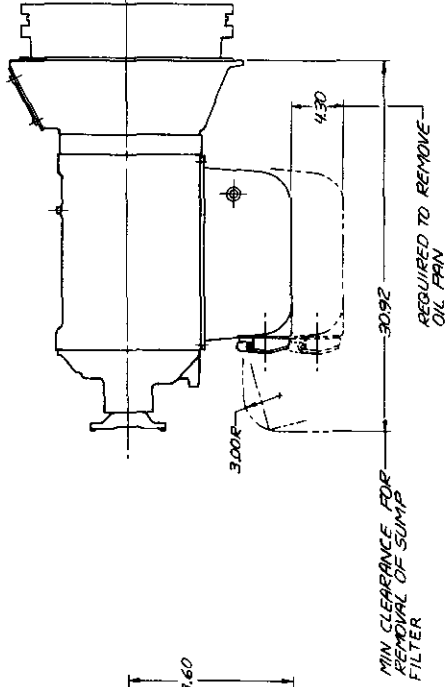
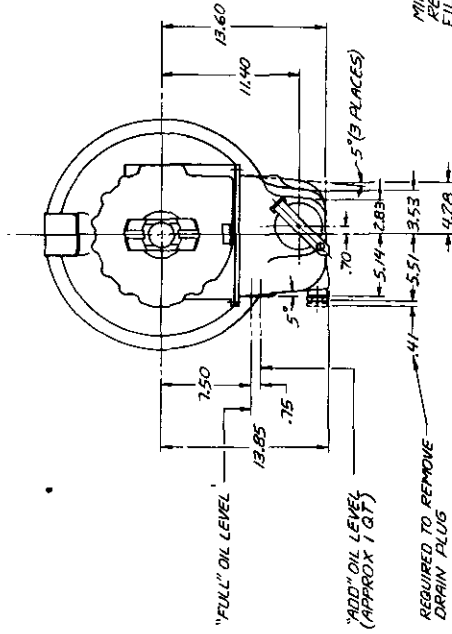
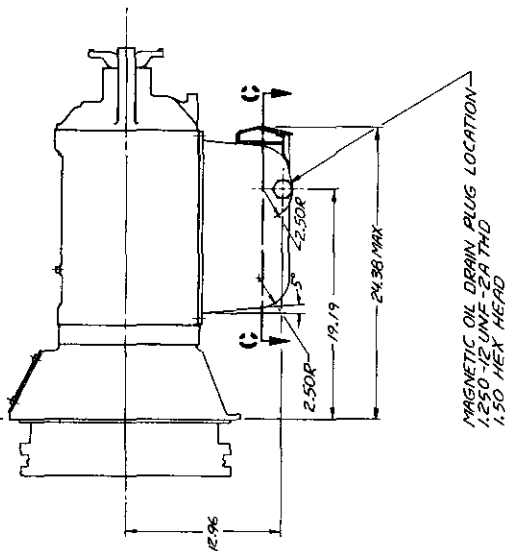
1. AIR MUST NOT BE INTRODUCED
INTO VALVE BODY
2. AIR CYLINDER TO ACTUATE VALVE
BY MEANS OF PUSH ROD AND
PROVIDE POSITIVE RETURN FORCE.
3. TRANSMISSION ENGINEERING DEPT'S.
APPROVAL IS A PREREQUISITE TO
USE OF ACTUATING MECHANISM.

J		GM		GENERAL MOTORS
H				
G				Allison TORAMATIC Drives
F				
E				TITLE: VARIABLE CAPACITY CONVERTER AIR CONTROL OPTION
D				
C				MODEL 3341 & 3441 AS 34-018
B				
A				ALLISON DIVISION - GENERAL MOTORS CORPORATION - INDIANAPOLIS, INDIANA
DATE	BY	CHKD	APPROVED	
3-12-65	WAS	50-.79	WAS	
3-12-65	REV. TUBES			
3-12-65	RLH	2-18-65	2-18-65	
3-12-65	PROL. ENR.	COPELAND	WELCHER	
3-12-65	SCALE	2-18-65	2-18-65	



OUTSIDE CONTOUR OF
OIL PAN AT SECTION C-C

BASE LINE



A534-021

FOR ALL TRANSMISSION INSTALLATION
DATA NOT SHOWN, SEE BASIC
INSTALLATION DRAWING AS 34-004

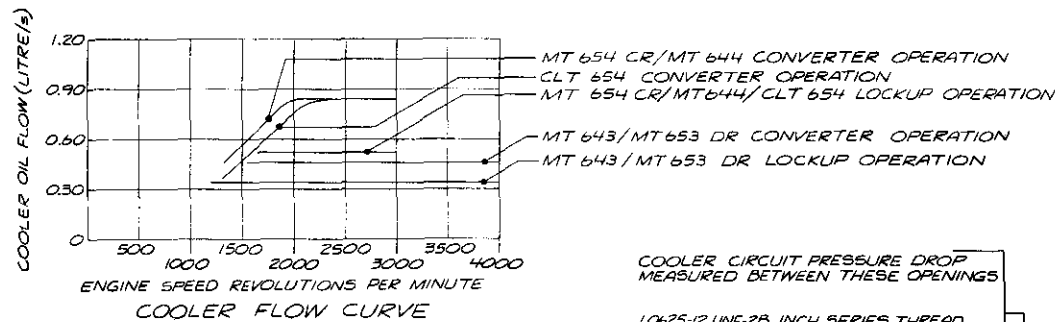
OPTIONAL DEEP SUMP PAN

MODEL CLT 3000

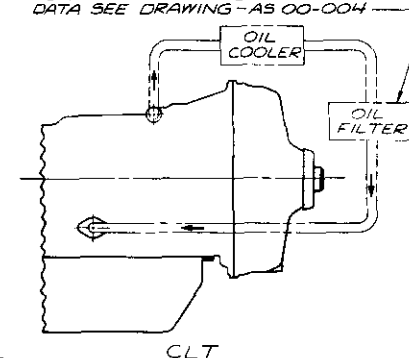
A534-021

REV	DATE	DESCRIPTION
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3	11-11-83	REVISION 2
4	11-11-83	REVISION 3
5	11-11-83	REVISION 4
6	11-11-83	REVISION 5
7	11-11-83	REVISION 6
8	11-11-83	REVISION 7
9	11-11-83	REVISION 8
10	11-11-83	REVISION 9
11	11-11-83	REVISION 10
12	11-11-83	REVISION 11
13	11-11-83	REVISION 12
14	11-11-83	REVISION 13
15	11-11-83	REVISION 14
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100	11-11-83	REVISION 99
101	11-11-83	REVISION 100



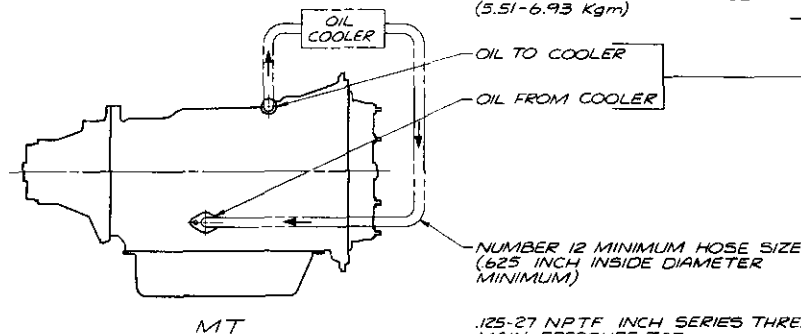


FILTER AND BASE ASSEMBLY
AC DIVISION PART NUMBER
5575224 (OR EQUIVALENT)
FOR FILTER INSTALLATION
DATA SEE DRAWING-AS 00-004



COOLER CIRCUIT PRESSURE DROP
MEASURED BETWEEN THESE OPENINGS

1.0625-12 UNF-2B INCH SERIES THREAD
SAE STRAIGHT THREAD O-RING BOSS
TORQUE FITTING TO 54-68 N·m
(3.91-6.93 kg·m)



.125-27 NPTF INCH SERIES THREAD
MAIN PRESSURE TAP
2100 kPa (21.41 kg/cm²) MAXIMUM

FOR SHIFT SPEED MODULATOR
INSTALLATION REQUIREMENTS
SEE DRAWING-AS 36-016

HOSE SPECIFICATION
SAE 100 R 5 EXCEPT OPERATING TEMPERATURE
RANGE FROM -40°C TO +150°C

AT OPERATING TEMPERATURE
ALLOWABLE COOLER CIRCUIT PRESSURE
DROP= 158 kPa (1.62 kg/cm²) MAXIMUM AT 0.50 LITRE/s - MT 643/MT 653 DR
172 kPa (1.76 kg/cm²) MAXIMUM AT 0.76 LITRE/s - MT 654 CR/MT 644/CLT 654
48 kPa (0.49 kg/cm²) MINIMUM AT 0.50 LITRE/s
PARTS SHOWN IN PHANTOM ARE CUSTOMER FURNISHED

AS 36-003

METRIC

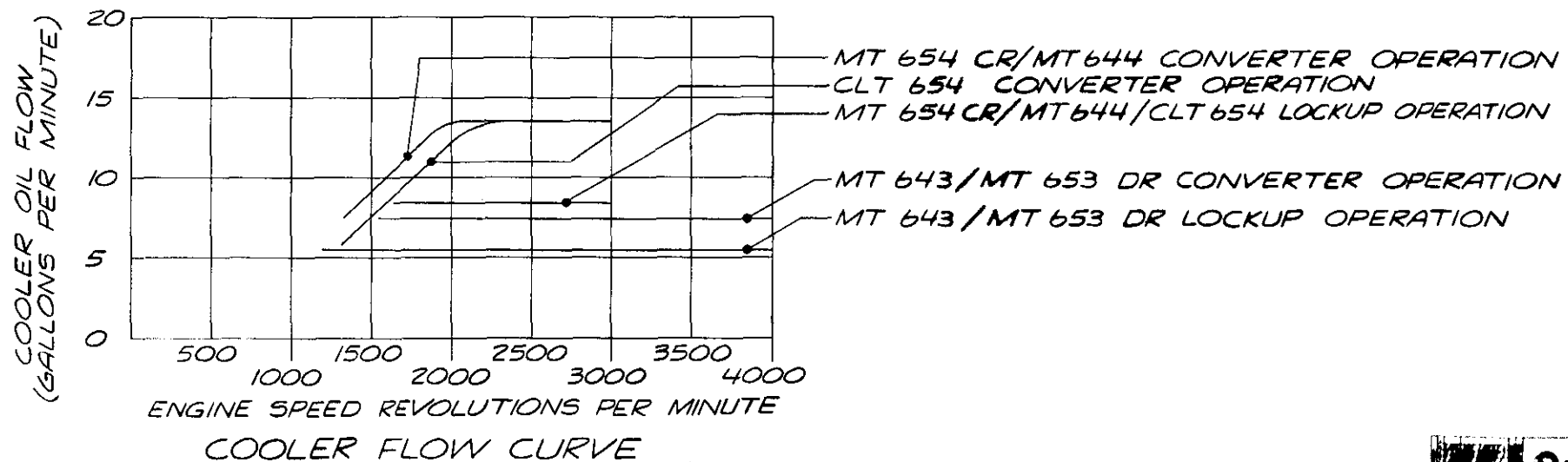
ALL DIMENSIONS ARE IN MILLIMETRES,
UNLESS OTHERWISE SPECIFIED

THIRD ANGLE
PROJECTION

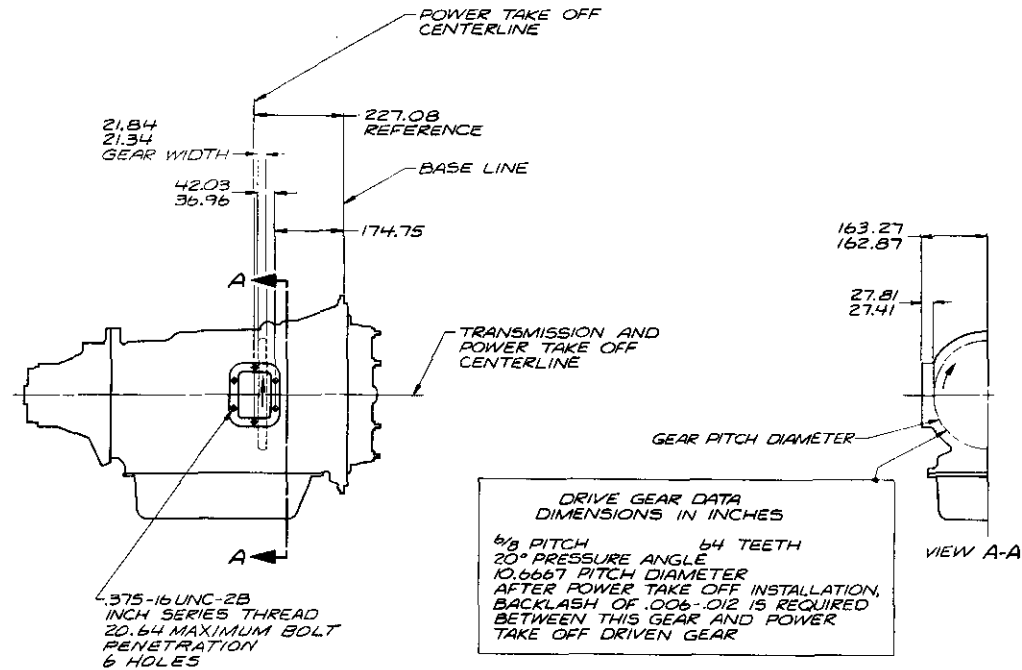
Amson Transmissions

MODEL MT 654 CR/MT 644/CLT 654

METRIC VALUES	EQUIVALENTS
-40°C	-40°F
+150°C	+300°F
48 kPa	7 PSI
158 kPa	23 PSI
172 kPa	25 PSI
2100 kPa	304 PSI
0.50 LITRE/s	8 GPM
0.76 LITRE/s	12 GPM
54-68 N·m	40-50 LB·FT



MILLIMETRES TO INCHES				METRIC VALUES	EQUIVALENTS
mm MIN/NOM	mm MAX	in. MIN/NOM	in. MAX	406 Nm	300 LB FT
21.34	21.84	.84	.86		
27.41	27.81	1.079	1.095		
36.96	42.03	1.455	1.655		
162.87	163.27	6.412	6.428		
174.75		6.88			
227.08		8.94			



DRIVE GEAR DATA
DIMENSIONS IN INCHES

6/8 PITCH 64 TEETH
20° PRESSURE ANGLE
10.6667 PITCH DIAMETER
AFTER POWER TAKE OFF INSTALLATION,
BACKLASH OF .006-.012 IS REQUIRED
BETWEEN THIS GEAR AND POWER
TAKE OFF DRIVEN GEAR

DRIVE GEAR SPEED

NEUTRAL = TURBINE SHAFT SPEED (SPEED VARIES
WITH POWER TAKE OFF LOAD, SEE INSTALLATION
MANUAL FOR COMPLETE SPEED RELATIONSHIP)

CLT 654 MT 653 DR	MT 643/644	
1ST GEAR	1ST GEAR	8.04 x OUTPUT SHAFT SPEED
2ND GEAR	2ND GEAR	3.58 x OUTPUT SHAFT SPEED
3RD GEAR	3RD GEAR	2.09 x OUTPUT SHAFT SPEED
4TH GEAR	4TH GEAR	1.59 x OUTPUT SHAFT SPEED
5TH GEAR	5TH GEAR	1.00 x OUTPUT SHAFT SPEED
REVERSE	REVERSE	5.67 x OUTPUT SHAFT SPEED

MT 654 CR	
1ST GEAR	4.17 x OUTPUT SHAFT SPEED
2ND GEAR	2.21 x OUTPUT SHAFT SPEED
3RD GEAR	1.66 x OUTPUT SHAFT SPEED
4TH GEAR	1.27 x OUTPUT SHAFT SPEED
5TH GEAR	1.00 x OUTPUT SHAFT SPEED
REVERSE	10.76 x OUTPUT SHAFT SPEED

DRIVE GEAR RATING:
406 Nm (41.48 kgm) CONTINUOUS
AT ANY SPEED UP TO 4000
REVOLUTIONS PER MINUTE

SIDE MOUNTED POWER TAKE OFF
DRIVE MOUNTING FLANGE:
SAE REGULAR DUTY TYPE

FOR TRANSMISSION INSTALLATION
DATA NOT SHOWN SEE BASIC
INSTALLATION DRAWING-AS 36-030

AS 36-006

METRIC

ALL DIMENSIONS ARE IN MILLIMETRES,
UNLESS OTHERWISE SPECIFIED

THIRD ANGLE
PROJECTION



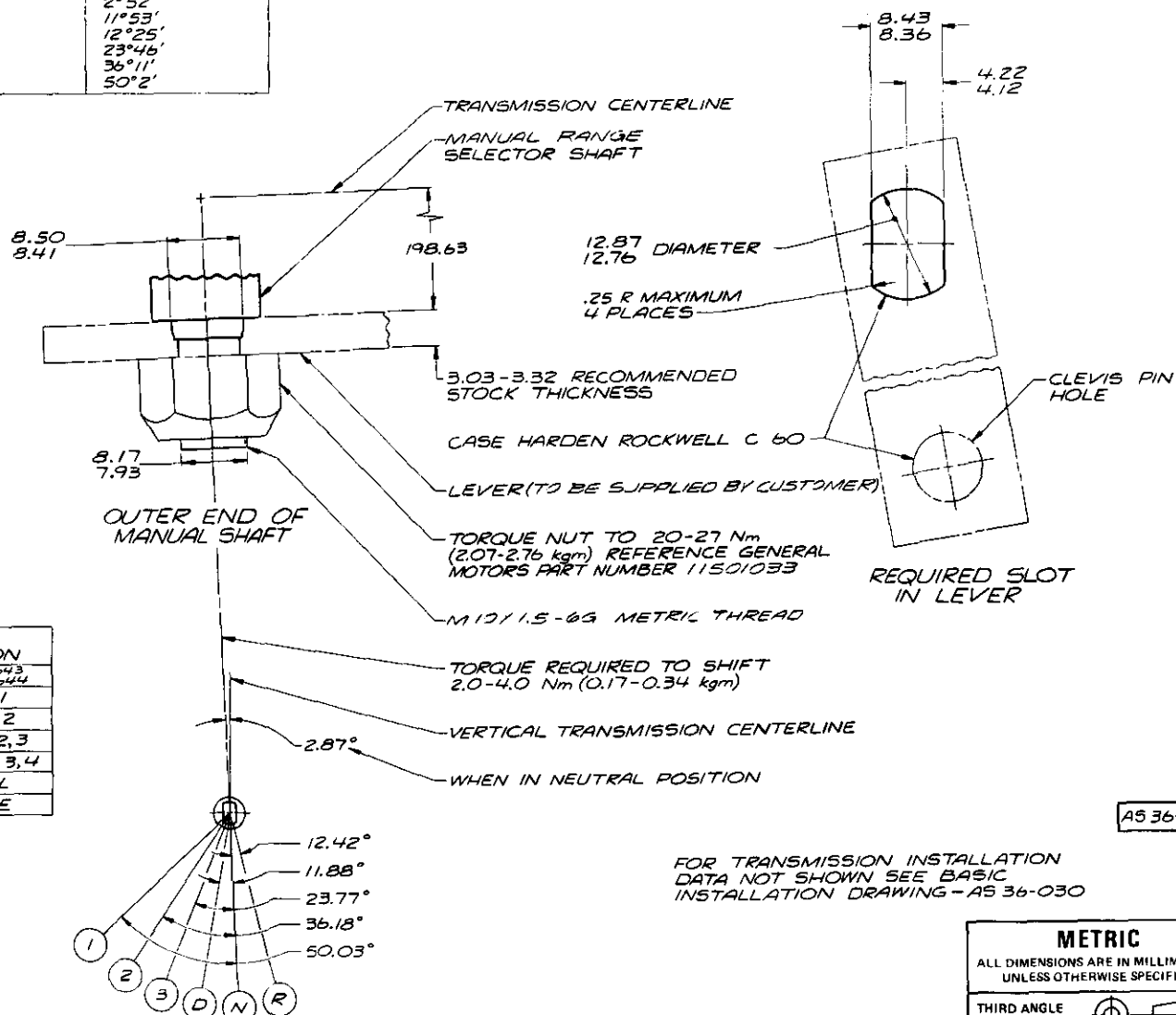
Alison Transmissions

DATE	BY	CHANGED	MODEL	REVISION	DATE	BY	CHANGED	MODEL	REVISION	DATE	BY	CHANGED	MODEL	REVISION
1-10-99	ROBINSON		MT/CLT 600	1	1-10-99	ROBINSON		MT/CLT 600	1	1-10-99	ROBINSON		MT/CLT 600	1
1-10-99	ROBINSON		MT/CLT 600	1	1-10-99	ROBINSON		MT/CLT 600	1	1-10-99	ROBINSON		MT/CLT 600	1
1-10-99	ROBINSON		MT/CLT 600	1	1-10-99	ROBINSON		MT/CLT 600	1	1-10-99	ROBINSON		MT/CLT 600	1
1-10-99	ROBINSON		MT/CLT 600	1	1-10-99	ROBINSON		MT/CLT 600	1	1-10-99	ROBINSON		MT/CLT 600	1

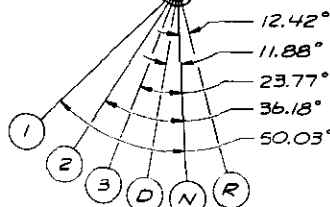
MODEL MT/CLT 600 AS 36-006

MILLIMETRES TO INCHES			
mm MIN/NOM	mm MAX	in. MIN/NOM	in. MAX
3.03	.25	.119	.010
4.12	3.32	.1620	.1665
7.93	8.17	.312	.322
8.36	8.43	.329	.332
8.41	8.50	.331	.335
12.76	12.87	.502	.507
198.63		7.82	

METRIC VALUES	EQUIVALENTS
2.0-4.0 Nm	15-30 LB IN.
20-27 Nm	15-20 LB FT
2.87°	2°52'
11.88°	11°53'
12.42°	12°25'
23.77°	23°46'
36.18°	36°11'
50.03°	50°2'



LEVER POSITION	RANGE SELECTION	
	MT 653 DR	MT 654
1	1	1
2	2	1,2
3	2,3,4	1,2,3
D	2,3,4,5	1,2,3,4
N	NEUTRAL	
R	REVERSE	



FLATS AS SHOWN INDICATE NEUTRAL POSITION

ALL CONTROL LINKAGES ARE SUBJECT TO DETROIT DIESEL ALLISON DIVISION GENERAL MOTORS CORPORATION TRANSMISSION ENGINEERING DEPARTMENT REVIEW PRIOR TO INSTALLATION APPROVAL

PARTS SHOWN IN PHANTOM ARE CUSTOMER FURNISHED

FOR TRANSMISSION INSTALLATION DATA NOT SHOWN SEE BASIC INSTALLATION DRAWING-AS 36-030

AS 36-007

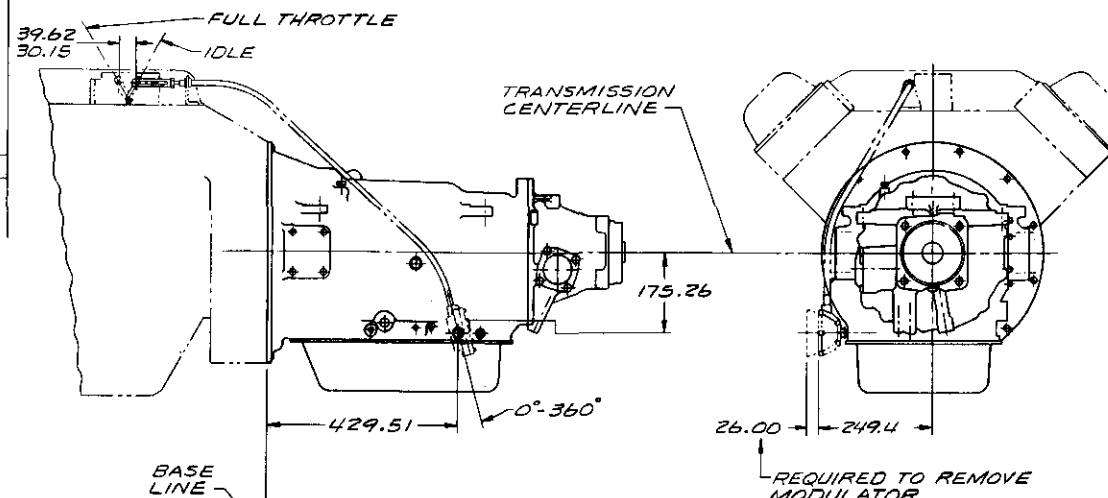
METRIC

ALL DIMENSIONS ARE IN MILLIMETRES, UNLESS OTHERWISE SPECIFIED

THIRD ANGLE PROJECTION

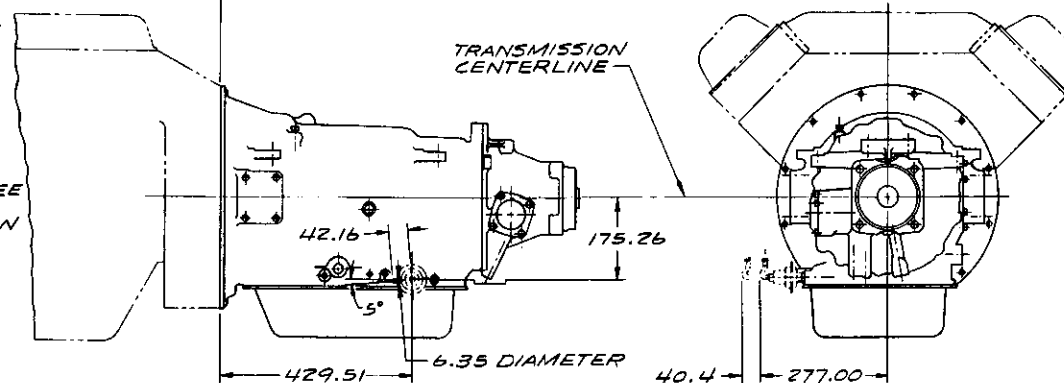
MODEL MT 653 DR AS 36-007	
DETROIT DIESEL ALLISON Division of General Motors - Indianapolis, Indiana	

MILLIMETRES TO INCHES			
mm MIN/NOM	mm MAX	in. MIN/NOM	in. MAX
6.35		.25	
27.00		1.04	
30.1	39.62	1.187	1.560
38.61		1.52	
175.26		6.90	
203.2		8.00	
261.6		10.30	
303.6		11.95	
429.51		16.91	
ADDITIONS CHG B			
40.4		1.59	
42.2		1.66	
277.0		10.90	



MECHANICAL ACTUATED MODULATOR

1. FUEL CONTROL LEVER TO PROVIDE 30.1 MINIMUM CABLE TRAVEL WITH FUEL CONTROL AND LEVER TOLERANCES CONSIDERED
2. DO NOT PERMIT CABLE TRAVEL TO EXCEED 39.62
3. CABLE BACKLASH IS NOT A DESIGN CONSIDERATION
4. INSTALL AND ADJUST WITH FUEL CONTROL AT FULL THROTTLE POSITION
5. ENGINE THROTTLE MUST BE FREE TO RETURN TO IDLE POSITION REGARDLESS OF CABLE POSITION
6. A RETURN SPRING MAY PROVE DESIRABLE TO RETURN THE CABLE TO THE IDLE POSITION
7. ALL CABLE BEND RADII MUST EXCEED 203.2



VACUUM ACTUATED MODULATOR

PARTS SHOWN IN PHANTOM ARE TO BE FURNISHED BY CUSTOMER

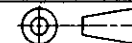
FOR ALL TRANSMISSION INSTALLATION DATA NOT SHOWN SEE DRAWING-A5 36-030 OR A5 36-005

A5 36-016

METRIC

ALL DIMENSIONS ARE IN MILLIMETRES, UNLESS OTHERWISE SPECIFIED

THIRD ANGLE PROJECTION

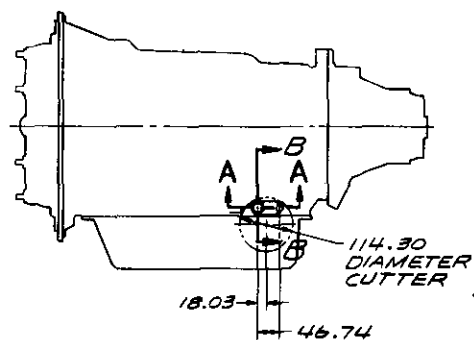
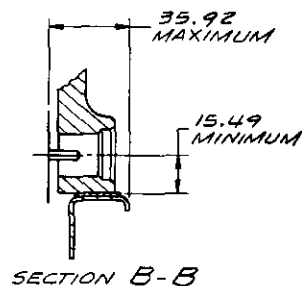


Allison Transmissions

MODULATOR INSTALLATION

MODEL 600 SERIES A5 36-016

Detroit Diesel Allison Division of General Motors - Indianapolis, Indiana



FUEL CONTROL POSITION

FULL
THROTTLE

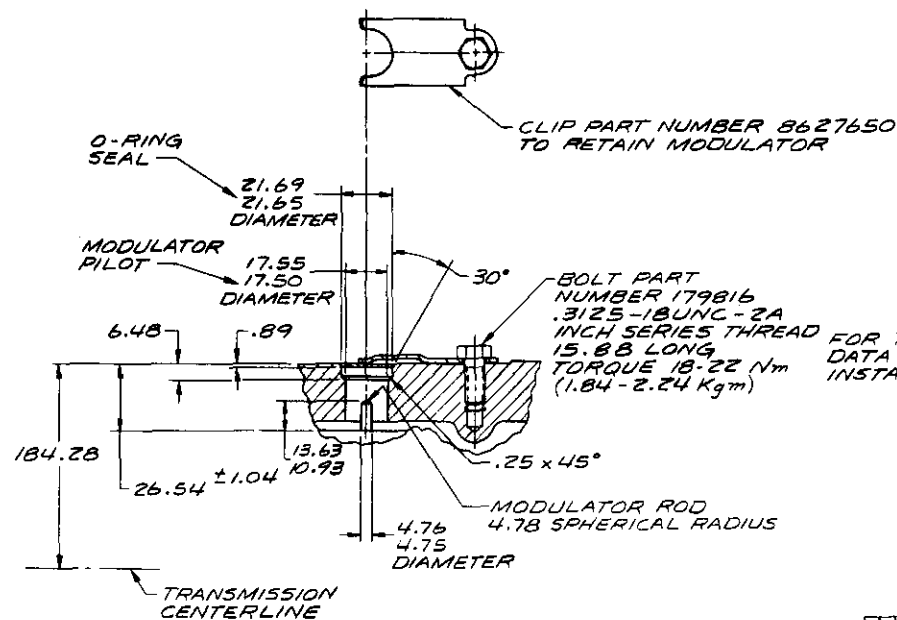
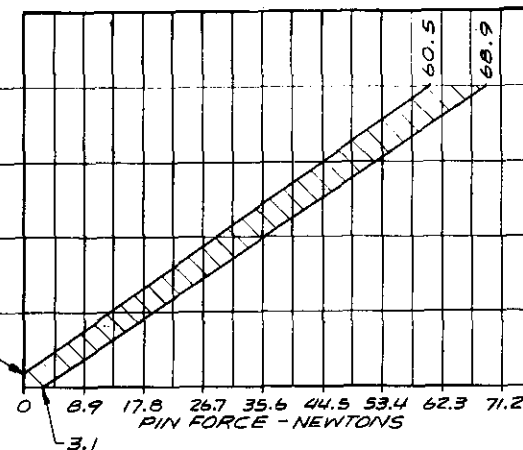
75 PER CENT
THROTTLE

50 PER CENT
THROTTLE

25 PER CENT
THROTTLE

5 PER CENT
THROTTLE

CLOSED
THROTTLE



SECTION A-A
(FULL SIZE)

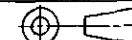
FOR TRANSMISSION INSTALLATION
DATA NOT SHOWN SEE BASIC
INSTALLATION DRAWING-AS 36-030

AS 36-017

METRIC

ALL DIMENSIONS ARE IN MILLIMETRES,
UNLESS OTHERWISE SPECIFIED

THIRD ANGLE
PROJECTION



Allison Transmissions

SHEET 1 OF 2

MODULATOR DESIGN
REQUIREMENTS

MODEL 600 SERIES AS 36-017

Detroit Diesel Allison Division of General Motors - Indianapolis, Indiana

MILLIMETRES TO INCHES				METRIC VALUES	EQUIVALENTS
mm MIN/NOM	mm MAX	in. MIN/NOM	in. MAX	3.1 N	0.7 POUNDS
.25		.010		8.9 N	2 POUNDS
.89		.035		17.8 N	4 POUNDS
1.04		.041		26.7 N	6 POUNDS
4.75	4.76	.1870	.1875	35.6 N	8 POUNDS
4.78		.188		44.5 N	10 POUNDS
6.48		.255		53.4 N	12 POUNDS
10.93	13.63	.430	.537	62.3 N	14 POUNDS
15.49		.610		71.2 N	16 POUNDS
15.88		.625		18-22 Nm	13-16 LB FT
17.50	17.55	.689	.691		
18.03		.71			
21.65	21.69	.852	.854		
26.54		1.045			
	35.92		1.414		
46.74		1.84			
114.30		4.50			
184.28		7.255			

FUEL CONTROL
POSITION

50%
THROTTLE

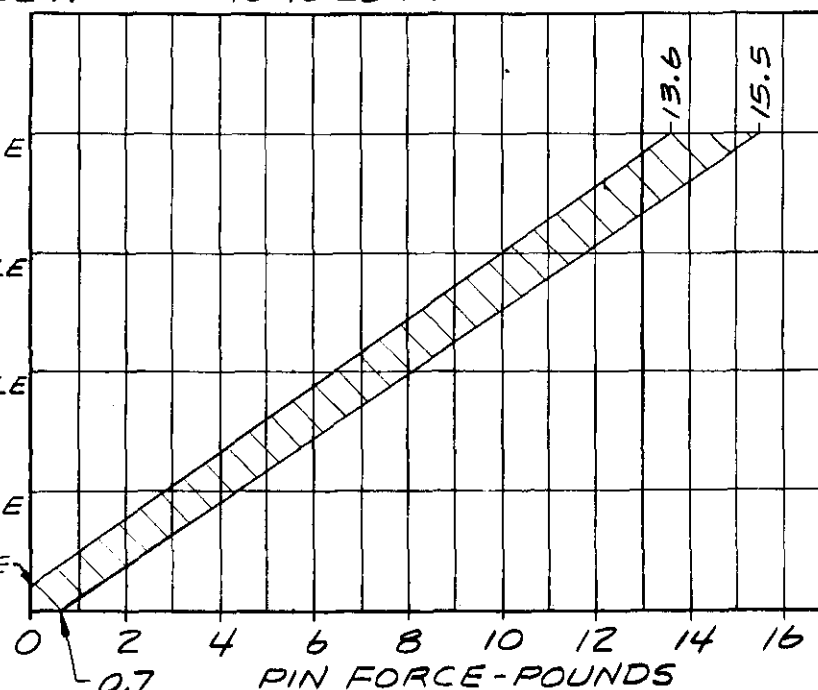
75%
THROTTLE

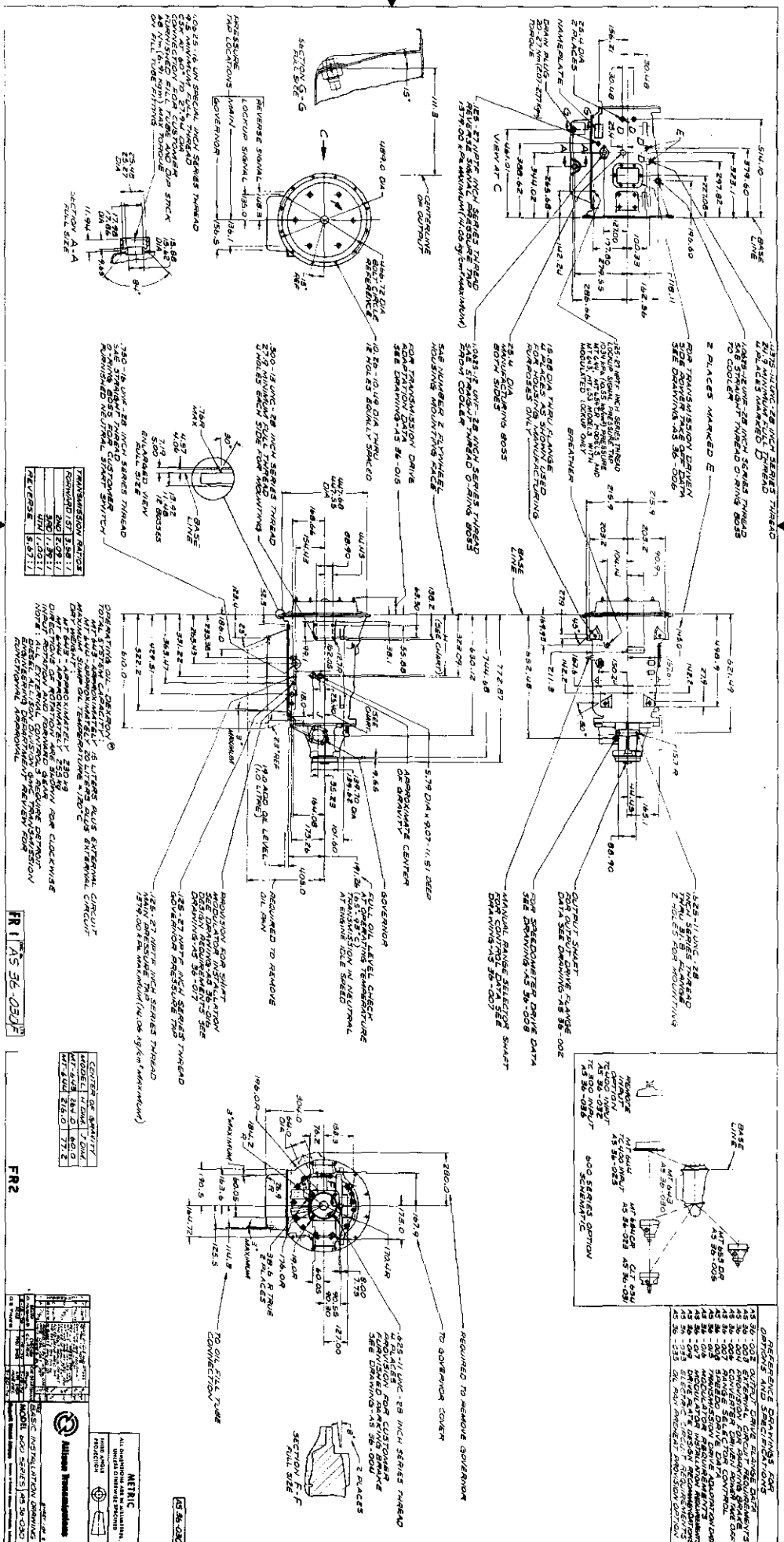
50%
THROTTLE

25%
THROTTLE

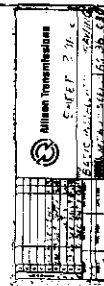
5%
THROTTLE

CLOSED
THROTTLE



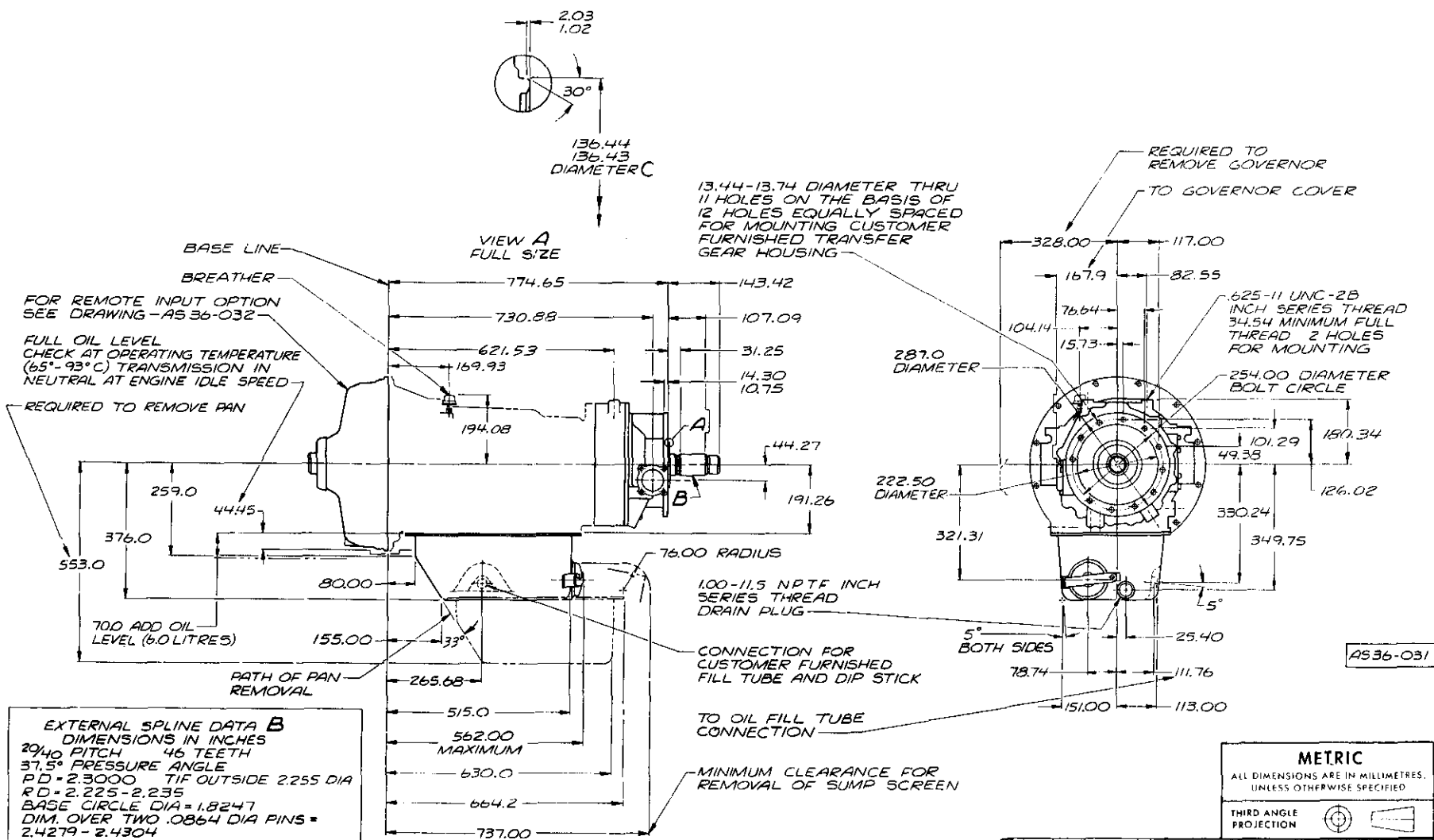


MILLIMETRES TO INCHES				MILLIMETRES TO INCHES				MILLIMETRES TO INCHES				METRIC VALUES				EQUIVALENTS			
mm MIN/NOM MAX	in. MIN/NOM MAX	mm MIN/NOM MAX	in. MIN/NOM MAX	mm MIN/NOM MAX	in. MIN/NOM MAX	mm MIN/NOM MAX	in. MIN/NOM MAX	mm MIN/NOM MAX	in. MIN/NOM MAX	mm MIN/NOM MAX	in. MIN/NOM MAX	mm MIN/NOM MAX	in. MIN/NOM MAX	mm MIN/NOM MAX	in. MIN/NOM MAX	mm MIN/NOM MAX	in. MIN/NOM MAX		
4.06	.16	7.6	.30	150.24	5.915	630.12	24.808	630.12	24.808	1379.00 kPa (14.06 kg/cm ²)	1379.00 kPa (14.06 kg/cm ²)	630.12	24.808	200 PSI	200 PSI	150°-200°F	150°-200°F		
4.76	.19	8.75	.35	152.3	6.036	652.48	25.688	652.48	25.688	65°-93°C	65°-93°C	652.48	25.688	250°F	250°F	150°-200°F	150°-200°F		
5.00	.20	9.00	.35	156.21	6.130	744.64	29.318	744.64	29.318	120°C	120°C	744.64	29.318	1 QUART	1 QUART	150°-200°F	150°-200°F		
5.75	.23	10.00	.40	157.5	6.216	772.87	30.428	772.87	30.428	15 LITRES	15 LITRES	772.87	30.428	1 QUART	1 QUART	150°-200°F	150°-200°F		
6.00	.24	11.00	.43	158.75	6.280	812.80	31.969	812.80	31.969	1 LITRE	1 LITRE	812.80	31.969	1 QUART	1 QUART	150°-200°F	150°-200°F		
6.25	.25	12.00	.47	162.56	6.404	864.00	33.618	864.00	33.618	230 kg	230 kg	864.00	33.618	1 QUART	1 QUART	150°-200°F	150°-200°F		
6.50	.26	13.00	.51	165.1	6.485	915.20	35.236	915.20	35.236	20-27 Nm	20-27 Nm	915.20	35.236	1 QUART	1 QUART	150°-200°F	150°-200°F		
6.75	.27	14.00	.55	167.6	6.60	966.40	36.843	966.40	36.843	68 Nm	68 Nm	966.40	36.843	1 QUART	1 QUART	150°-200°F	150°-200°F		
7.00	.28	15.00	.59	169.9	6.680	1017.60	38.450	1017.60	38.450	255 kg	255 kg	1017.60	38.450	1 QUART	1 QUART	150°-200°F	150°-200°F		
7.25	.29	16.00	.63	173.0	6.784	1068.80	40.057	1068.80	40.057	20 LITRES	20 LITRES	1068.80	40.057	1 QUART	1 QUART	150°-200°F	150°-200°F		
7.50	.30	17.00	.67	176.0	6.900	1120.00	41.664	1120.00	41.664	1034 kPa	1034 kPa	1120.00	41.664	1 QUART	1 QUART	150°-200°F	150°-200°F		
7.75	.31	18.00	.71	178.2	7.025	1171.20	43.271	1171.20	43.271	ADDITIONS CHANGE E	ADDITIONS CHANGE E	1171.20	43.271	1 QUART	1 QUART	150°-200°F	150°-200°F		
8.00	.32	19.00	.75	180.3	7.132	1222.40	44.878	1222.40	44.878	ADDITIONS CHANGE E	ADDITIONS CHANGE E	1222.40	44.878	1 QUART	1 QUART	150°-200°F	150°-200°F		
8.25	.33	20.00	.79	182.5	7.250	1273.60	46.485	1273.60	46.485	ADDITIONS CHANGE E	ADDITIONS CHANGE E	1273.60	46.485	1 QUART	1 QUART	150°-200°F	150°-200°F		
8.50	.34	21.00	.83	184.6	7.332	1324.80	48.092	1324.80	48.092	ADDITIONS CHANGE E	ADDITIONS CHANGE E	1324.80	48.092	1 QUART	1 QUART	150°-200°F	150°-200°F		
8.75	.35	22.00	.87	186.8	7.400	1376.00	49.699	1376.00	49.699	ADDITIONS CHANGE E	ADDITIONS CHANGE E	1376.00	49.699	1 QUART	1 QUART	150°-200°F	150°-200°F		
9.00	.36	23.00	.91	188.9	7.500	1427.20	51.306	1427.20	51.306	ADDITIONS CHANGE E	ADDITIONS CHANGE E	1427.20	51.306	1 QUART	1 QUART	150°-200°F	150°-200°F		
9.25	.37	24.00	.95	191.0	7.532	1478.40	52.913	1478.40	52.913	ADDITIONS CHANGE E	ADDITIONS CHANGE E	1478.40	52.913	1 QUART	1 QUART	150°-200°F	150°-200°F		
9.50	.38	25.00	.99	193.2	7.632	1529.60	54.520	1529.60	54.520	ADDITIONS CHANGE E	ADDITIONS CHANGE E	1529.60	54.520	1 QUART	1 QUART	150°-200°F	150°-200°F		
9.																			



REFERENCE DRAWINGS FOR
OPTIONS AND SPECIFICATIONS

AS 36-032 REMOTE INPUT OPTION



DRY WEIGHT APPROXIMATELY 270 kg

FOR TRANSMISSION INSTALLATION DATA
NOT SHOWN SEE BASIC INSTALLATION
DRAWING - AS 36-030

RUNOUT OF DIA C RELATIVE TO PD OF SPLINE B
MUST BE WITHIN 0.25 TIR AFTER ASSEMBLY
TO CUSTOMER SUPPLIED DROP BOX

METRIC

ALL DIMENSIONS ARE IN MILLIMETRES.
UNLESS OTHERWISE SPECIFIED

THIRD ANGLE
PROJECTION



Allison Transmissions

SHEET 1 OF 2

INSTALLATION DRAWING

MODEL CLT 654

AS 36-031

REV	ADD	DATE	BY	CHK	APP	DESCRIPTION
1						REV ADD OIL LEVEL, BREATHER AND DIM.
2						REV ADD OIL LEVEL, BREATHER AND DIM.
3						REV ADD OIL LEVEL, BREATHER AND DIM.
4						REV ADD OIL LEVEL, BREATHER AND DIM.
5						REV ADD OIL LEVEL, BREATHER AND DIM.
6						REV ADD OIL LEVEL, BREATHER AND DIM.
7						REV ADD OIL LEVEL, BREATHER AND DIM.
8						REV ADD OIL LEVEL, BREATHER AND DIM.
9						REV ADD OIL LEVEL, BREATHER AND DIM.
10						REV ADD OIL LEVEL, BREATHER AND DIM.

MILLIMETRES TO INCHES					METRIC VALUES	EQUIVALENTS
mm	MIN/NOM	mm	MAX	in.		
				MIN/NOM		
1.02		2.03		.04	6.0 LITRES	6.5 QUARTS
10.75		14.30		.423	270.0 kg	595 POUND
13.74		13.74		.541	65°-93°C	150°-200°F
15.74				.620		
25.40				1.000		
31.25				1.230		
44.45				1.75		
49.38				1.944		
76.0				3.00		
76.64				3.017		
78.74				3.100		
80.0				3.15		
85.5				3.350		
95.0				3.720		
101.29				3.988		
111.76				4.216		
113.0				4.45		
117.00				4.606		
126.02				4.961		
136.43				5.371		
143.42				5.646		
151.0				5.94		
155.0				6.10		
167.5				6.61		
181.24				7.130		
222.50				8.750		
254.00				10.000		
259.0				10.19		
265.68				10.460		
321.31				12.650		
328.0				12.92		
330.24				13.000		
349.75				13.770		
376.0				14.80		
515.0				20.28		
555.0				21.77		
621.53				24.470		
630.0				24.80		
644.2				25.15		
730.88				28.774		
737.0				29.10		
774.65				30.498		
104.14				4.10		
167.94				6.61		
207.95				8.19		
212.5				8.39		
ADDITIONS CHANGE A						
194.08				7.64		
ADDITIONS CHANGE B						
194.08				7.64		
70.0				2.76		

100-100

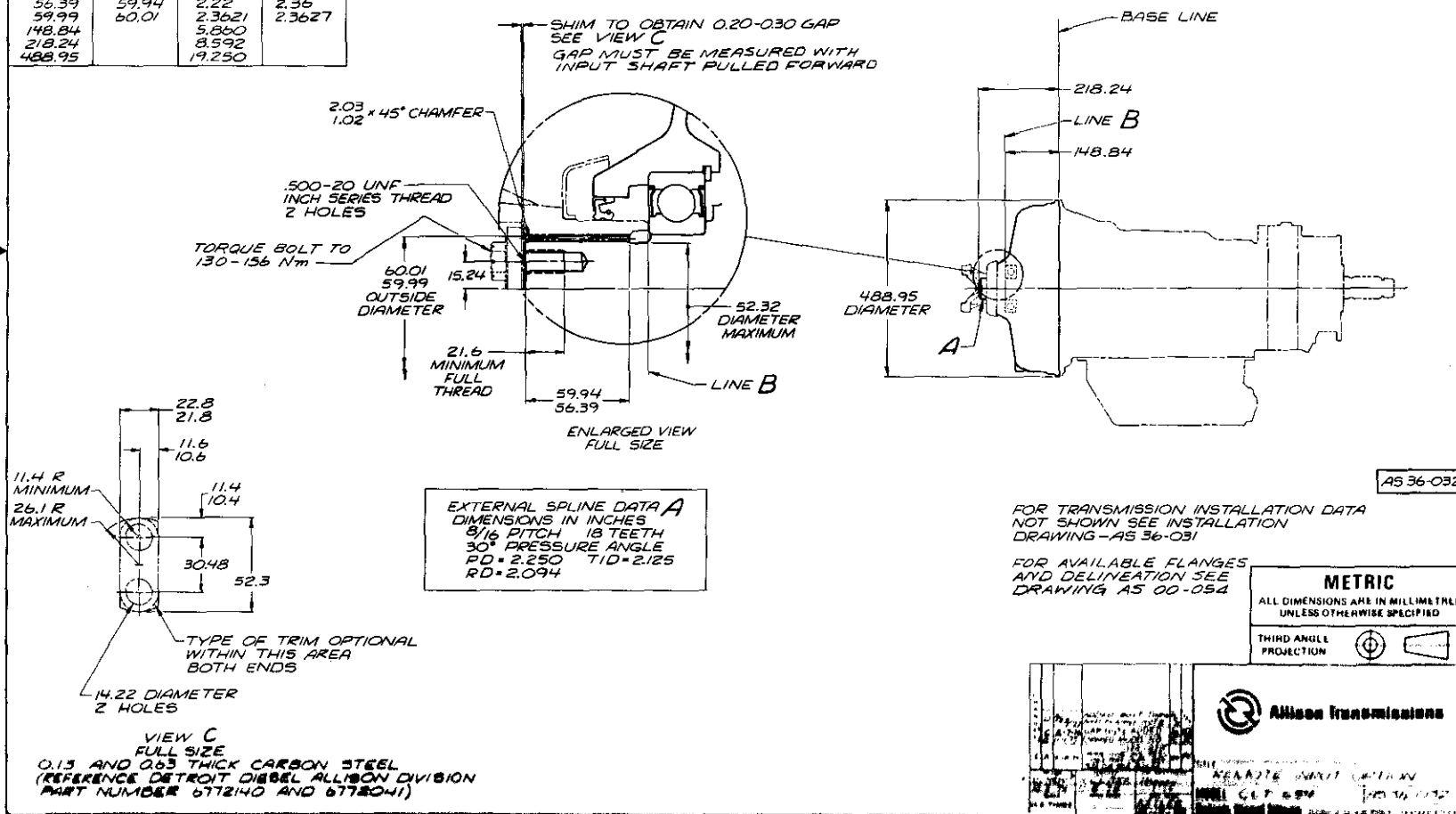


National Bureau of Standards
 Gaithersburg, MD 20899
 Telephone: (301) 975-3000
 Telex: 9102
 Fax: (301) 975-2800

MILLIMETRES TO INCHES			
mm MIN/NOM	mm MAX	in. MIN/NOM	in. MAX
0.13		.005	
0.20	0.30	.008	.012
0.63		.025	
1.02	2.03	.04	.08
10.4	11.4	.41	.45
10.6	11.6	.42	.46
11.4		.45	
14.22		.56	
15.24		.60	
21.6		.85	
21.8	22.8	.86	.90
30.48	26.1	1.20	1.03
52.3		2.06	
56.39	52.32	2.22	2.06
59.99	59.94	2.3621	2.36
148.84	60.01	5.860	2.3627
218.24		8.592	
488.95		19.250	

METRIC VALUE
130-156 N·m

EQUIVALENT
96-115 POUND FEET



MILLIMETRES TO INCHES			
mm MIN/NOM	mm MAX	in. MIN/NOM	in. MAX
14.10	14.35	.555	.565
20.07	20.57	.790	.810
38.1		1.50	
52.83		2.08	
190.63		7.51	
194.31		7.65	

METRIC VALUES	EQUIVALENTS
5-7 Nm	4-5 LB FT
68-81 Nm	50-60 LB FT

MOLDED CK SLEEVE
418653 CI WITH TERMINAL
418643 CI (OPTIONAL ESSEX
NUMBER 302-1)

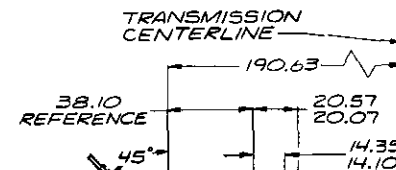
MOLDED CL SLEEVE 418654 CI
WITH TERMINAL 418647 CI
(OPTIONAL ESSEX NUMBER 103-1)

SHELL-MALE, DOUBLE
PACKARD ELECTRIC
PART NUMBER 5297867

TERMINAL AND CLIP ASSEMBLY
PACKARD ELECTRIC PART
NUMBER 2965638

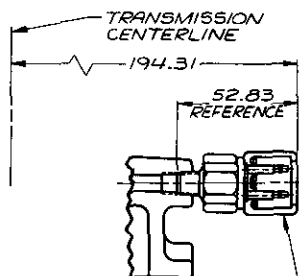
SLEEVE
PACKARD ELECTRIC
PART NUMBER 5297052

TYPICAL CONNECTOR
NO SCALE



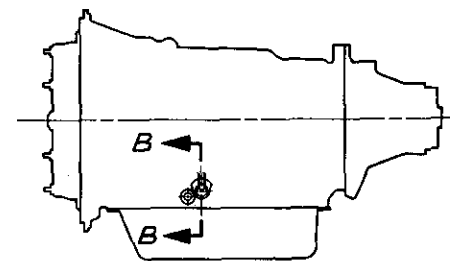
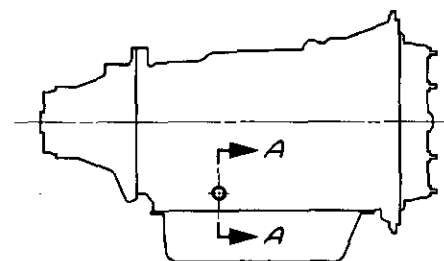
SECTION B-B
FULL SCALE

NEUTRAL START SWITCH
DETROIT DIESEL ALLISON DIVISION
PART NUMBER 6839527
TORQUE TO 68-81 Nm (6.91-8.29 kgm)
SWITCH IS CLOSED ONLY WHEN
RANGE SELECTOR LEVER ON
TRANSMISSION IS IN NEUTRAL
POSITION



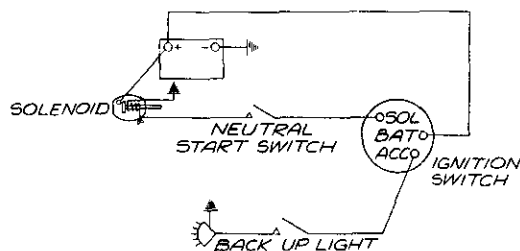
SECTION A-A
FULL SCALE

BACK UP LIGHT SWITCH
FASCO PART NUMBER 5-1733-1500
TORQUE TO 5-7 Nm (0.55-0.69 kgm)



AS 36-033

FOR TRANSMISSION INSTALLATION DATA
NOT SHOWN SEE BASIC INSTALLATION
DRAWING-AS 36-030



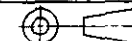
TYPICAL CIRCUIT 12 VOLT SYSTEM

ALL ELECTRICAL PARTS SHOWN
FURNISHED BY CUSTOMER

METRIC

ALL DIMENSIONS ARE IN MILLIMETRES,
UNLESS OTHERWISE SPECIFIED

THIRD ANGLE
PROJECTION

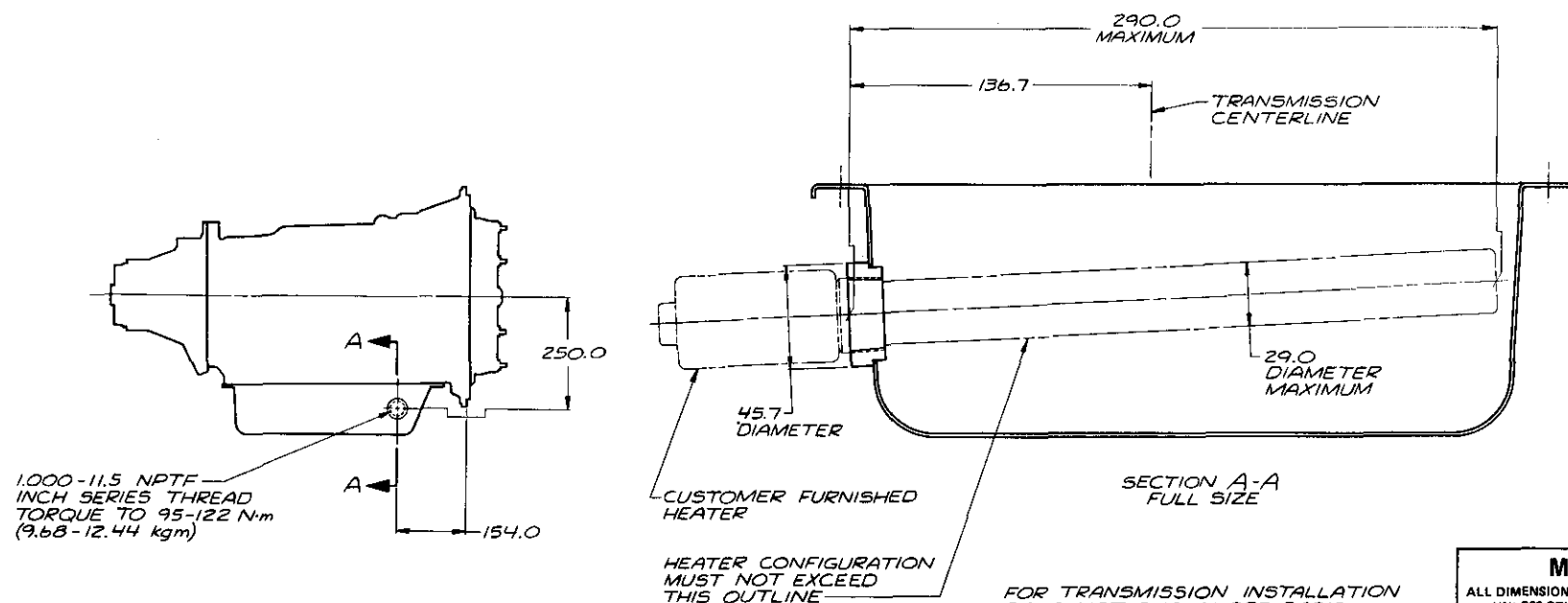


Allison Transmissions

TITLE			
DESIGNED BY	INVESTIGATED BY	DATE	REVISION
0. NEW	1.1.1.1.1.1	11.1.1.1.1.1	1.1.1.1.1.1
0.2 TIMES	0.2 TIMES	0.2 TIMES	0.2 TIMES
ELECTRIC CIRCUIT REQUIREMENTS			
MODEL 600 SERIES AS 36-033			
Detroit Diesel Allison Division of General Motors - Indianapolis, Indiana			

MILLIMETRES TO INCHES			
mm MIN/NOM	mm MAX	in. MIN/NOM	in. MAX
45.7	29.0	1.80	1.14
136.7		5.38	
154.0		6.06	
250.0	290.0	9.82	11.42

METRIC VALUES	EQUIVALENTS
95-122 N·m	70-90 LB FT



A5 36-035

METRIC

ALL DIMENSIONS ARE IN MILLIMETRES, UNLESS OTHERWISE SPECIFIED

THIRD ANGLE PROJECTION

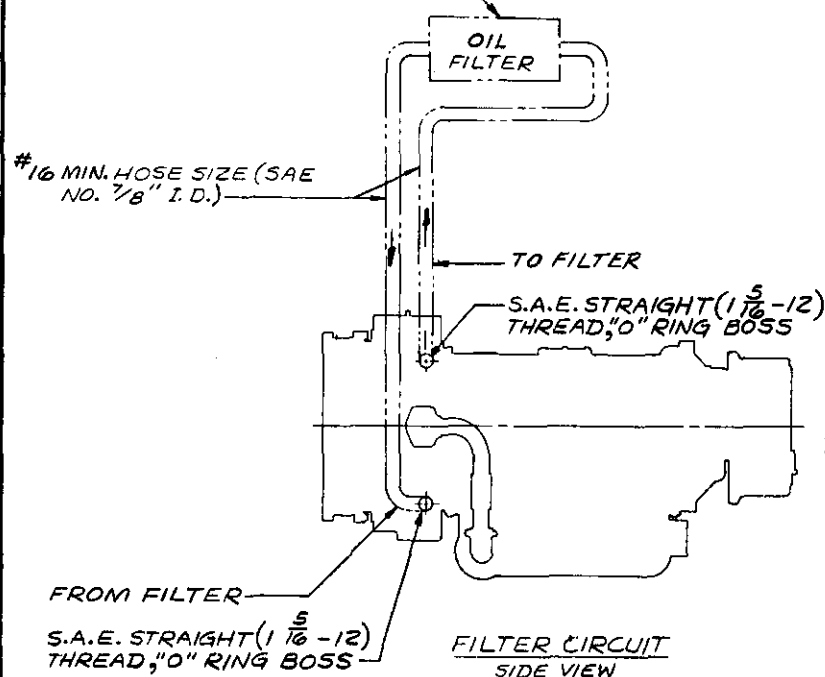
NOT APPLICABLE TO MT 654 CR



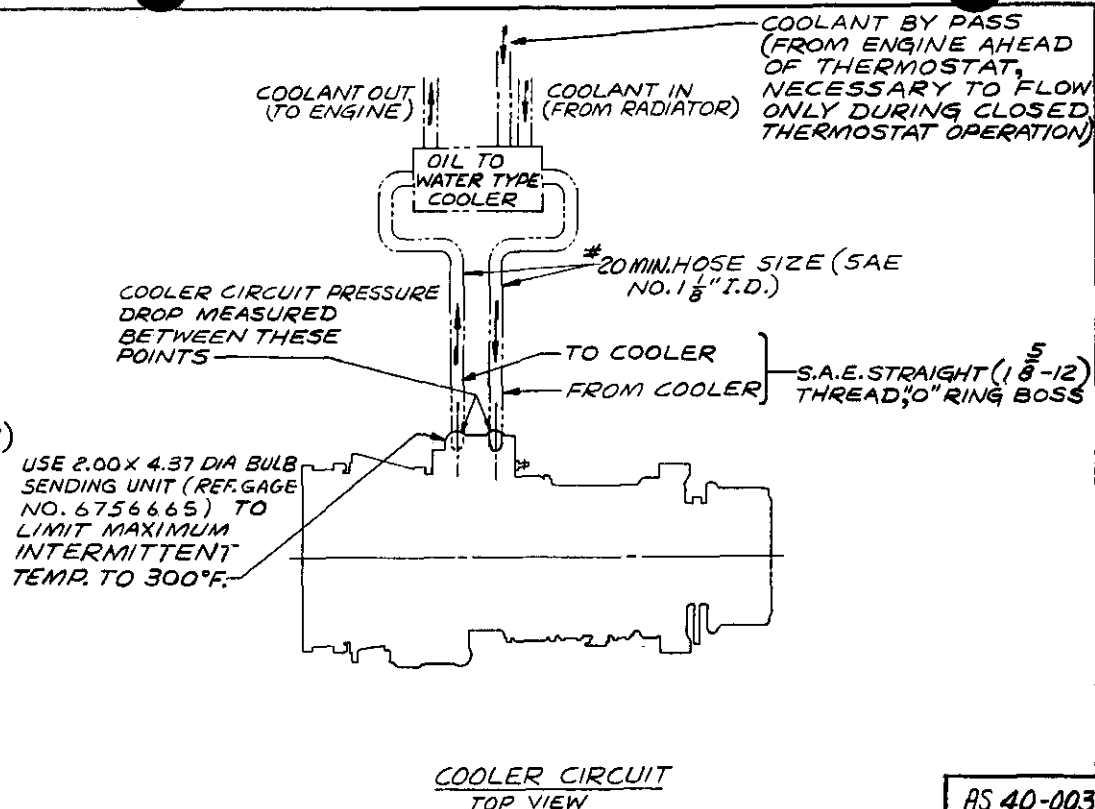
CHANGES				TITLE	
1	DATE	BY	REASON	OIL PAN PRE-HEAT PROVISION OPTION	
2	DATE	BY	REASON	MODEL MT 600	
3	DATE	BY	REASON	A5 36-035	
4	DATE	BY	REASON	Detroit Diesel Allison Division of General Motors - Indianapolis, Indiana	



©



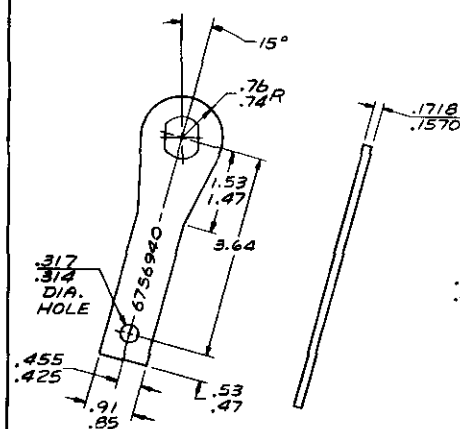
COOLER CIRCUIT PRESSURE SPECIFICATIONS:
1. AT OPERATING TEMPERATURE
MAX. COOLER CIRCUIT PRESSURE
DROP 15 P.S.I. AT 30 G.P.M.



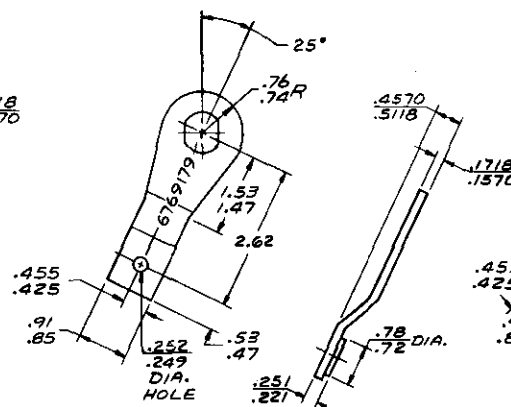
REFERENCE:
TC-6743 CURVE
FOR COOLER OIL FLOW

PARTS SHOWN IN PHANTOM
ARE FURNISHED BY CUSTOMER

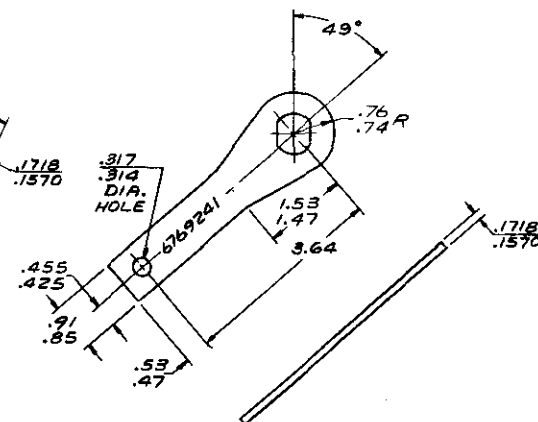
GAMES	J			 GENERAL MOTORS	
	H				
	N				
	F				
	E				
	D				
	C				
7	C	11-7-66	WAS 5575224	K'S FM	
	B	5-27-66	ADDED GAGE NO.	K'S EP	
	A	4-3-62	WAS 380°F	RHS	
DATE		DATE	DATE	TITLE:	
HUGHES		SALARY 8	RTS	EXTERNAL HYDRAULIC	
2-12-61		4-12-61	5-12-61	CIRCUIT REQUIREMENTS	
NONE		APPL. ENGR.	COTTINGHAM		
NONE		3-20-61		MODEL HT-70	AS 40-003
ALLISON DIVISION - GENERAL MOTORS CORPORATION - INDIANAPOLIS, INDIANA					



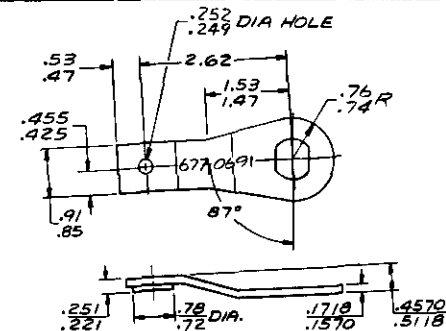
TYPE A LEVER
ALLISON PART NO. 6756940



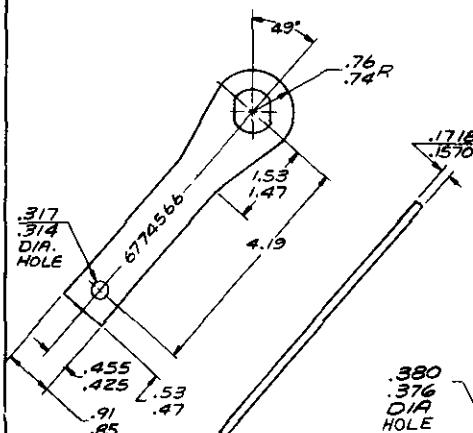
TYPE B LEVER
ALLISON PART NO. 6769179



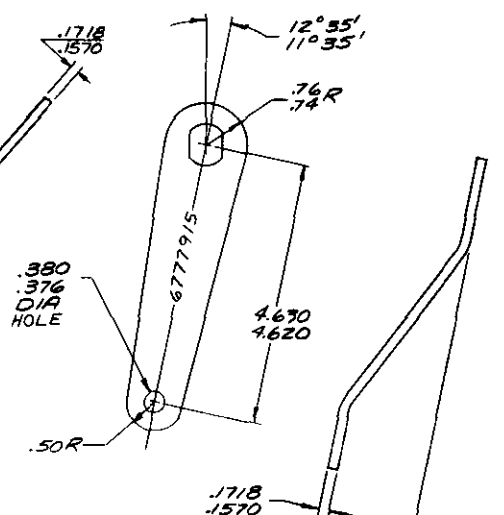
TYPE C LEVER
ALLISON PART NO. 6769241
BASIC



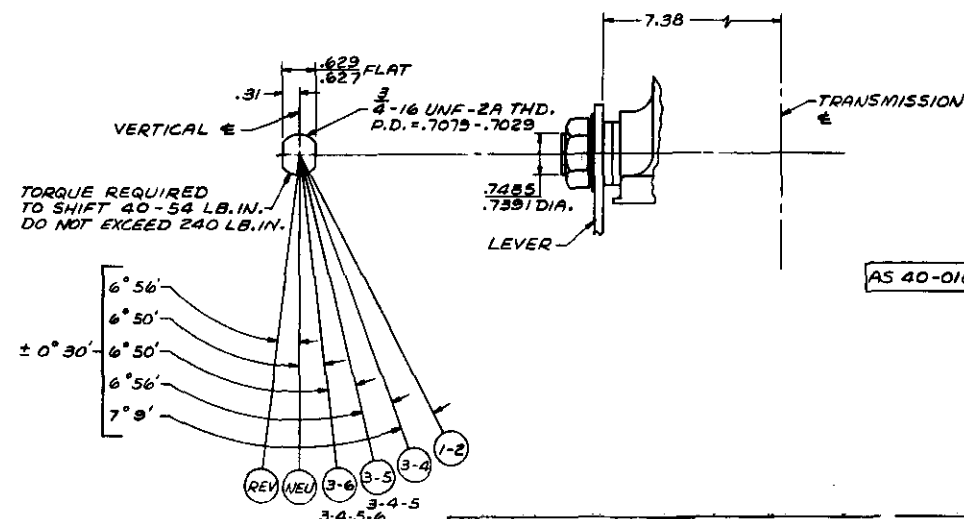
TYPE D LEVER
ALLISON PART NO. 6770691



TYPE E LEVER
ALLISON PART NO. 6774566



TYPE F LEVER
ALLISON PART NO. 6777915



FOR TRANSMISSION
INSTALLATION DATA NOT SHOWN
SEE BASIC INSTALLATION
DRAWINGS AS 40-001 AND AS 40-014

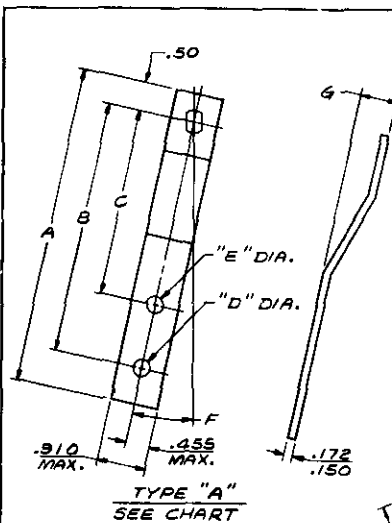
NOTE:
ALL LEVERS SHOWN IN
THE NEUTRAL POSITION.

REVISIONS		DATE		BY		CHECKED		APPROVED	
1	AS 40-016								

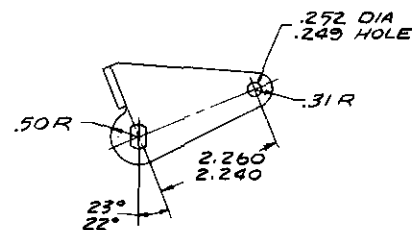
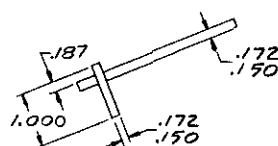
MANUAL RANGE SELECTOR
CONTROL DATA

MODEL HT-70 AS 40-016

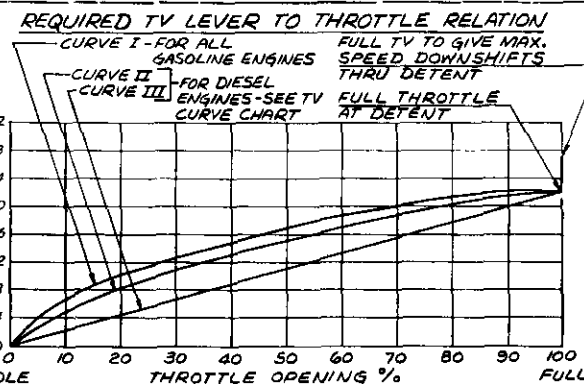
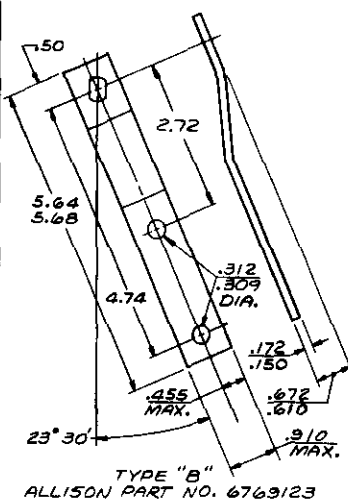
ALLISON TRANSMISSION



TYPE "A" DIMENSIONS							
ALLISON P/N	A	B	C	D DIA.	E DIA.	F	G
6775631	5.64	4.50	2.40	.312	.312	12"	.672
6769458	5.64	4.50	—	.312	.309	12"	.610
6772739	6.07	5.094	—	.407	—	4"	.672
6773969	5.26	4.50	—	.251	—	0"	.702
	5.38	—	—	.249	—	—	.620



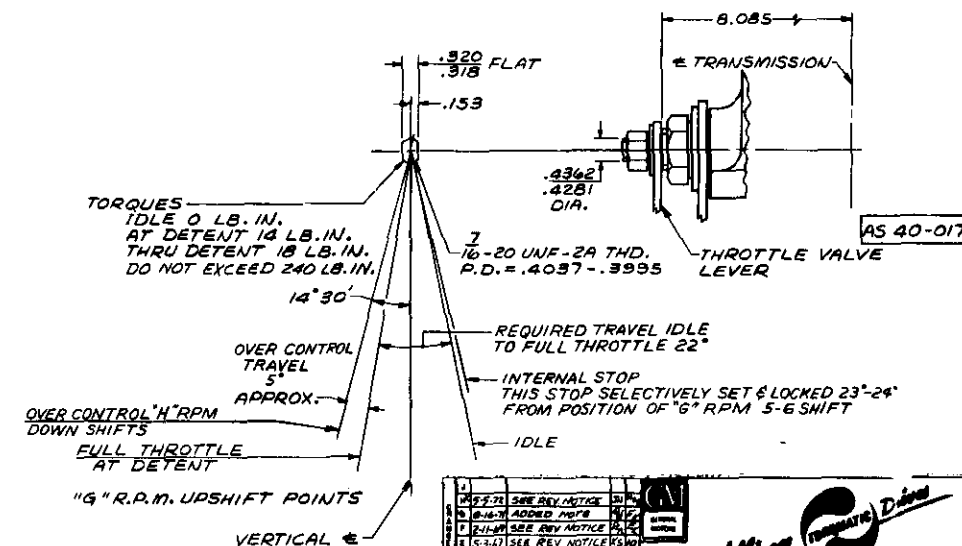
TYPE "C"
ALLISON PART NO. 6777914



TV CURVE CHART		
ENGINE	WITH 25° TRAVEL FUEL LEVER	USE CURVE
CUMMINS	WITH 35° TRAVEL FUEL LEVER	III
DOED		III

NOTE:
CORRELATE WITH THE APPLICATION ENGINEERING DEPT., ALLISON DIV., FOR DIESEL ENGINES NOT INDICATED.

ENGINE FULL THROTTLE GOVERNED SPEED	FULL THROTTLE UPSHIFTS "G" RPM	OVER CONTROL DOWN SHIFT "H" RPM
2100 RPM	2050 RPM	1640 RPM
2300 RPM	2250 RPM	1620 RPM
2600 RPM	2550 RPM	1500 RPM



FOR TRANSMISSION INSTALLATION
DATA NOT SHOWN SEE BASIC
INSTALLATION DRAWINGS AS 40-001
AND AS 40-014

REV.	DATE	DESCRIPTION	BY	CHKD.
1	5-2-71	SEE REV. NOTICE	WJS	
2	6-16-71	ADDED NOTE	WJS	
3	7-11-71	SEE REV. NOTICE	WJS	
4	11-3-71	SEE REV. NOTICE	WJS	
5	10-30-71	SEE REV. NOTICE	WJS	
6	11-24-71	SEE REV. NOTICE	WJS	
7	11-24-71	SEE REV. NOTICE	WJS	
8	11-24-71	SEE REV. NOTICE	WJS	
9	11-24-71	SEE REV. NOTICE	WJS	
10	11-24-71	SEE REV. NOTICE	WJS	
11	11-24-71	SEE REV. NOTICE	WJS	
12	11-24-71	SEE REV. NOTICE	WJS	
13	11-24-71	SEE REV. NOTICE	WJS	
14	11-24-71	SEE REV. NOTICE	WJS	
15	11-24-71	SEE REV. NOTICE	WJS	
16	11-24-71	SEE REV. NOTICE	WJS	
17	11-24-71	SEE REV. NOTICE	WJS	
18	11-24-71	SEE REV. NOTICE	WJS	
19	11-24-71	SEE REV. NOTICE	WJS	
20	11-24-71	SEE REV. NOTICE	WJS	

THROTTLE VALVE CONTROL DATA
MODEL HT-70
AS 40-017



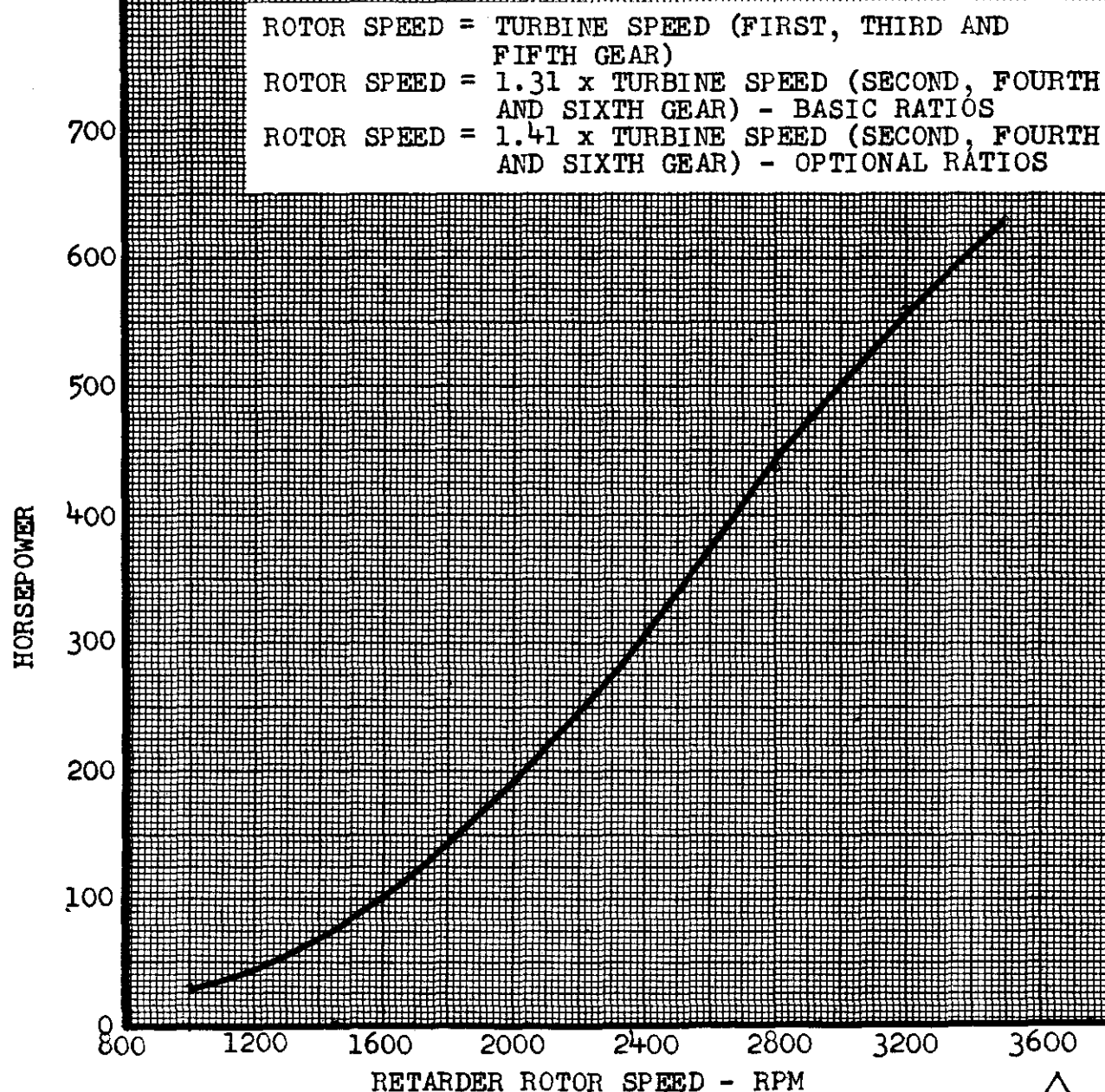
DATE
4-10-63

BY
Ramsey

AS 40-020

TRANSMISSION ENGINEERING DEPARTMENT

ALLISON HT-70 INTEGRAL HYDRAULIC RETARDER
HORSEPOWER ABSORPTION CHARACTERISTICS
(FULL BRAKING PERFORMANCE)



REVISED AND REDRAWN - RAMSEY, 6-8-66



DATE
3-25-64
BY
RAMSEY

AS 40-023

TRANSMISSION ENGINEERING DEPARTMENT

COOLER OIL FLOW OF THE HT & VHT-70 TRANSMISSION

NOTE: For Cooler Circuit Piping
and Pressure Requirements
Refer to Drawing AS-40-003

NOTE: OPERATING PRESSURE
AT OPERATING TEMP. AND
MAX. SPEED - 6TH GEAR
• MAX. ALLOWABLE CONV. OUT
OIL PRESSURE, 65 PSI
• MAX. ALLOWABLE EXTERNAL
CIRCUIT PRESSURE DROP
15 PSI AT 30 GPM

