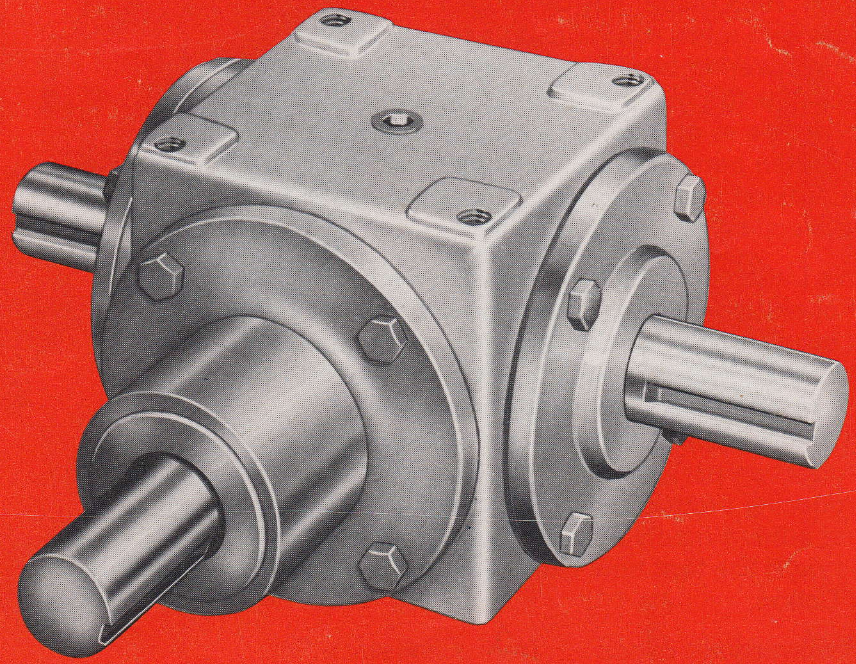
CATALOG NO. 1182A

DALTON

BEVEL GEAR DRIVES



DALTON gear company

212 COLFAX AVENUE N., MINNEAPOLIS, MINN. 55405 • 374-2150

DISTRIBUTED BY

the DALTON gear company

dedicated to precision manufacturing of gears, sprockets, couplings, torque limiters, speed reducers and gearmotors

Since 1955 Dalton has developed from a small shop with a few machines to a fully equipped plant covering over 50,000 square feet. This growth is the result of a combination of skill and know-how in production, plus the special attitude of Dalton personnel and management which focuses on one objective . . . complete customer satisfaction.

This Dalton attitude is reflected in every phase of operations. Dalton management, with 40 years of experience in serving industry, understands the needs and problems of both distributors and O.E.M. customers and what they expect from a manufacturer. Dalton engineering and production personnel take real pride in producing products of consistent high quality that adhere rigidly to specifications. Doing the job right the first time is the everyday objective of Dalton.

Whatever your needs . . . from a few stock sprockets to mass production of highly specialized gears . . . you can depend on Dalton for the quality you expect, the delivery you require, and the best possible price.

DALTON gear company
212 Colfax Avenue North • Minneapolis, Minnesota 55405
612/374-2150

LUBRICATION

CAUTION

ALL BEVEL GEAR DRIVES ARE SHIPPED DRY. OIL MUST BE ADDED PRIOR TO OPERATION.

All Bevel Gear Drives are splash lubricated. Typical mounting positions with all shafts in horizontal position are shown in Figure 1 Fill/breather, level and drain plugs have been provided to meet most mounting requirements.

Before operating: Remove Fill/Breather Plug (1) and Oil Level Plug (2). Fill gear box with an approved lubricant (see chart below) until lubricant starts coming out oil level plug hole. Clean thread on removed plugs and plug holes with degreaser. Install plugs securely in gear case. *Note* — Fill/Breather Plug (1) must always be installed in the top of gear case, opposite Drain Plug (3).

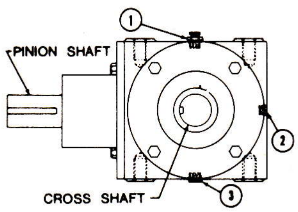


FIGURE 1

APPROVED LUBRICANTS

TEXACO	Multigear EP90
AMERICAN	Multipurpose Gear Lubricant
GULF	Transgear EP
EXXON (Humble)	Gear Oil GP
SHELL	Spirax EP
MOBIL	Mobilube EP
CHEVRON	RPM Multiservice
PHILLIPS	DN-600 Philube All Purpose Gear Oil
CONACO	Polar Start (For amb. Temp. below 15° F.)
Or any oil that meets MIL-L-2105B and GL5 specifications.	

CHANGING LUBRICANT — After the first 100 hours of operation, drain out initial oil, preferably while warm. Flush out the gear case with an approved non-flamable, non-toxic solvent and refill. Oil may be reused if properly filtered to removed metal particles. Thereafter, oil should be changed at least every 2500 operating hours or every 6 months — which-ever occurs First. If unit is operating in extremely dirty or high or low temperature environments, change oil more often.

VARIATIONS FROM NORMAL CONDITIONS

Input speeds that exceed the maximum speeds recommended for a given ratio which are listed in the general catalog specifications may require an adjustment in the oil level. Consult for special lubricant recommendations when operating at higher speeds.

If either shaft is in a vertical position or inclined more than 15°, zerk fittings may be required to lubricate upper bearings. It may also be necessary to make some oil plug modification. Consult Dalton Service Department.

IMPORTANT — Unit should not be operated when internal temperature exceeds 200° F. or below 40° F. with recommended lubricants. Reduced seal life or lubrication failure could be caused unless special duty lubricants are used. When ambient temperature is below 15° F. at start-up, use Conaco Polar Start DN-600 and use a sufficient warm-up period before applying load to the driven shaft.

INSTALLATION

These drives have been designed to be mounted so that the pinion shaft and the cross shaft are in a horizontal position. If this is not possible, see Variations From Normal Conditions.

Power may be applied (drive shaft) to either the cross or pinion shaft. All Bevel Gear Drives may be driven clockwise or counterclockwise on either the pinion shaft or the cross shaft.

Because of varying requirements, mounting hardware is not supplied with these units. Good quality cap screws with lock washers should always be used. Base and fasteners for motor and Bevel Gear Drive must be rigid enough to maintain alignment between drive and motor and between drive and couplings.

COUPLINGS — Flexible couplings to pinion and cross shafts are recommended because they minimize bearing and gear wear caused by slight misalignment. Follow coupling manufacturer's installation directions.

SHEAVES AND SPROCKETS — When mounting sheaves or sprockets, the center of the load should be located as close to the Bevel Gear Drive as possible. Excessive overhung loading could result in early failures of bearings or shaft. Refer to the general catalog or contact your local distributor for overhung load ratings.

CAUTION

If any noticeable resistance is encountered when installing sheaves or sprockets on shafts, inspect bore for paint, weld burrs or imperfections and hone smooth. Force fitting can easily damage gears, shafts and bearings.

WARNING

All rotating shafts and couplings must be adequately shielded by the user for maximum safety.

PREVENTATIVE MAINTENANCE

Keep shafts and vent plug clean to prevent foreign particles from entering seals or gear case. Inspect periodically for oil leaks. Check coupling set screws and Bevel Gear Drive mounting bolts for tightness (loose fasteners can cause alignment problems and excessive wear). Check end play in shafts. Noticeable movement might indicate service or parts replacement.

Note — When seals are new, a small amount of lubricant leakage is sometimes noted until seals seat on the shaft. This condition is normal but if leakage persists, it would indicate a damaged seal and must be replaced. See Maintenance Instructions.

STARTING TORQUE

Momentary or starting torque should be limited to 200 per cent of rated capacity for Dalton Bevel gear drives.

CLASSES OF SERVICE

The Industrial ratings for bevel gear drives in this catalog are based on AGMA Class 1 service conditions. A 1.00 service factor is used when the application is free from recurrent shock loading and is continuous but does not exceed 10 hours per day. For other operating conditions, the application horsepower and torque requirement must be multiplied by the appropriate service factor.

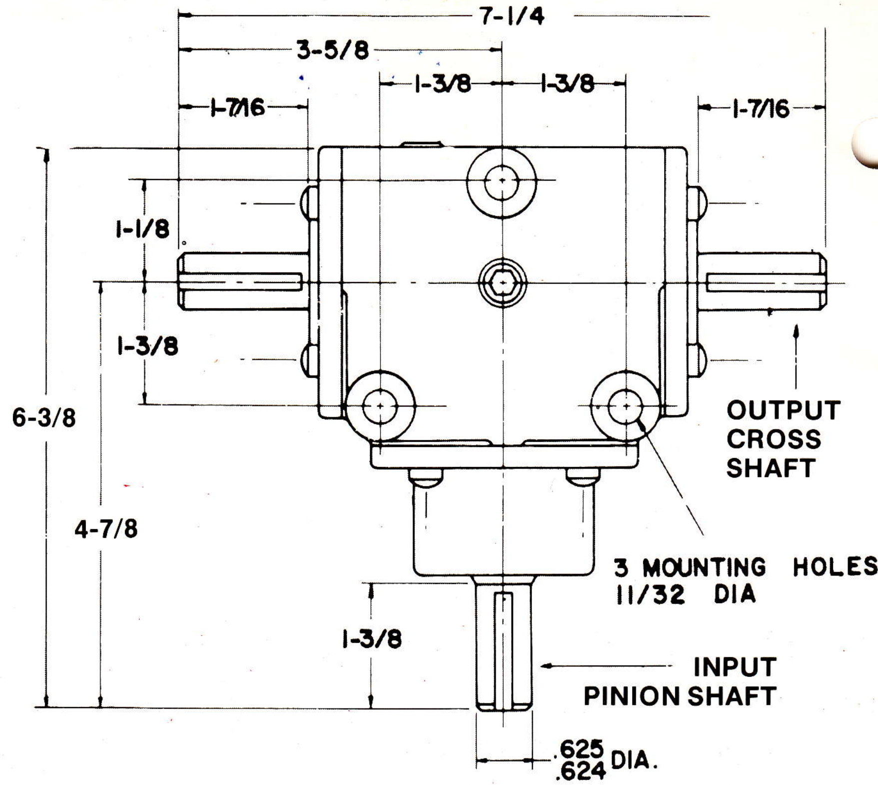
SERVICE FACTORS FOR STRAIGHT AND SPIRAL BEVEL GEAR MODELS

PRIME MOVER	DURATION OF SERVICE	DRIVEN MACHINE LOAD CLASSIFICATION		
		UNIFORM	MODERATE SHOCK	HEAVY SHOCK
Electric Motor	Occasional 1/2 Hour per day	0.50	0.80	1.25
	Intermittent 3 Hours per day	0.80	1.00	1.50
	Up to 10 Hours per day	1.00	1.25	1.75
	24 Hours per day	1.25	1.50	2.00
Multi-Cylinder Internal Combustion Engine	Occasional 1/2 Hour per day	0.80	1.00	1.50
	Intermittent 3 Hours per day	1.00	1.25	1.75
	Up to 10 Hours per day	1.25	1.50	2.00
	24 Hours per day	1.50	1.75	2.25
Single Cylinder Internal Combustion Engine	Occasional 1/2 Hour per day	1.00	1.25	1.75
	Intermittent 3 Hours per day	1.25	1.50	2.00
	Up to 10 Hours per day	1.50	1.75	2.25
	24 Hours per day	1.75	2.00	2.50

DALTON

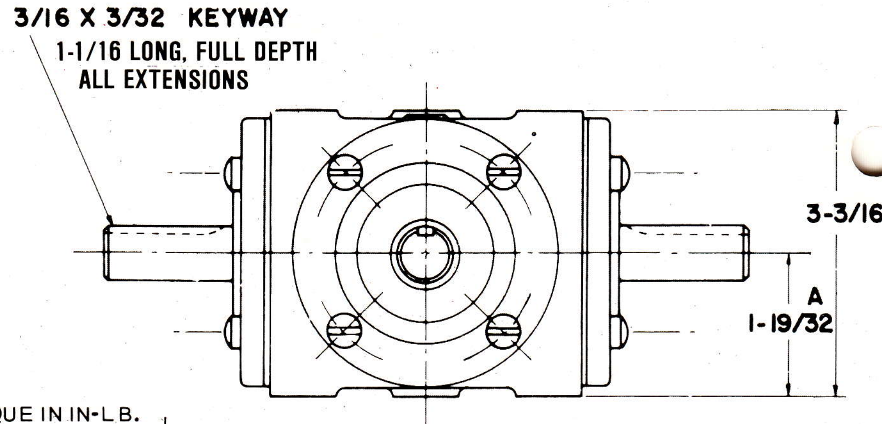
MODEL RA-65 SERIES RIGHT ANGLE DRIVE UNITS

- Cast aluminum alloy housing and cover plates designed for rugged service and reduced weight.
- Spring loaded grease seals.
- Timken tapered roller bearings on all shafts.
- Ground shafts are of stress-proof steel.
- Mounts in a choice of positions.
- Available in the following ratios, STRAIGHT BEVEL GEARS: 1:1, 1.5:1, 2:1, 1:1.5 and 1:2. SPIRAL BEVEL GEARS: 1:1.



	CROSS SHAFT INCREASER RATIOS
RATIO	1:2
DIA. "A"	.500/.498 *
KEYWAY	1/8 × 1/16 × 1 1/16 EFF. LGTH.

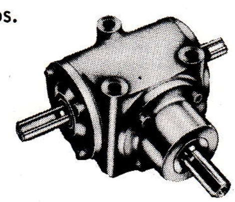
*FOR STYLES A, B ONLY.



Net Wt. 5½ Lbs.—Ship Wt. 7 Lbs.

Oil capacity ¼ Lb.

Changed



- SEE PAGE 3 FOR LUBRICATION INSTRUCTIONS
- SEE PAGE 17 FOR SHAFT ARRANGEMENT & ROTATION

HORSEPOWER, TORQUE, AND OVERHUNG LOAD RATINGS

SERVICE FACTOR = 1.00

(Uniform Load, 8 Hr./Day)

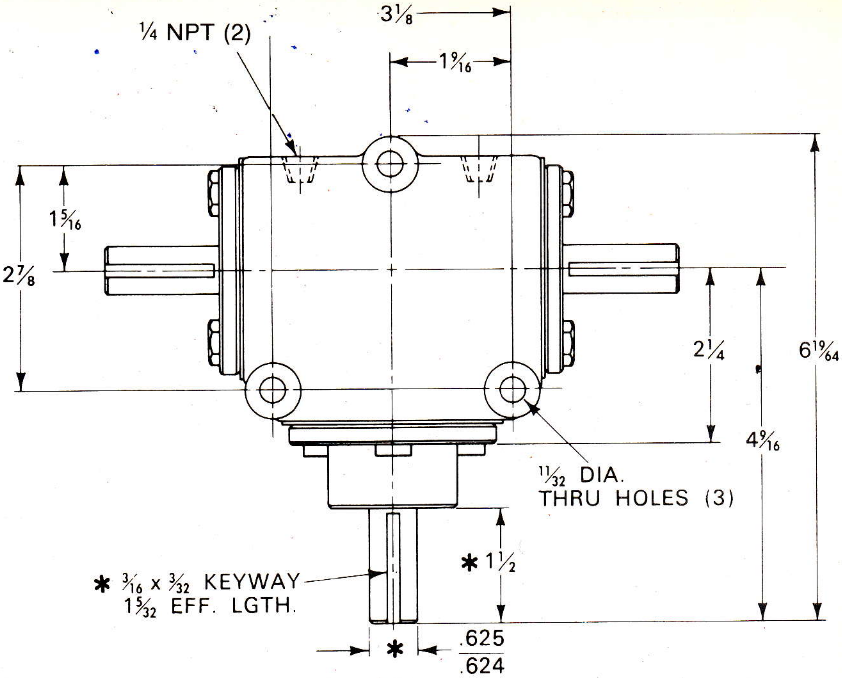
RATIO WITH STRAIGHT GEARS	TORQUE IN IN-LB. / OHL IN LBS. AT CENTER OF KW	INPUT SPEED, RPM 1750	1450	1150	870	720	580	300	200	100
1 to 1	INPUT HP	5.95	5.22	4.14	3.14	2.46	2.00	1.25	.75	.45
	OUTPUT TORQUE	228	229	230	234	237	244	261	278	286
	OUTPUT RPM	1750	1450	1150	870	720	580	300	200	100
	OUTPUT OHL	176	186	210	238	264	293	377	424	557
1.5 to 1	INPUT HP	3.75	3.2	2.6	2.04	1.69	1.41	.80	.55	.29
	OUTPUT TORQUE	206	212	218	226	231	239	254	263	284
	OUTPUT RPM	1166	966	766	580	480	386	200	133	66
	OUTPUT OHL	246	269	290	318	349	382	484		
2 to 1	INPUT HP	2.50	2.13	1.71	1.37	1.18	.97	.54	.37	.18
	OUTPUT TORQUE	181	185	193	202	210	215	222	223	228
	OUTPUT RPM	875	725	575	435	360	290	150	100	50
	OUTPUT OHL	301	323	350	380	413	450	565	634	803

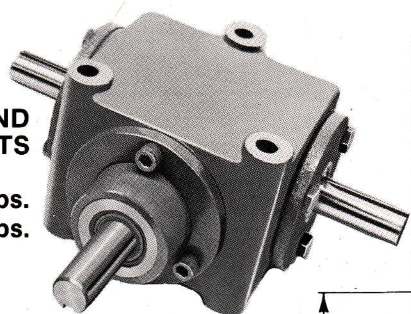
RATIO WITH SPIRAL GEARS	TORQUE IN IN-LB. / OHL IN LBS. AT CENTER OF KW	INPUT SPEED, RPM 3000	2500	2000	1500	1000	800	400	200	100
1 to 1	INPUT HP	13	10.9	8.8	6.8	4.6	3.8	1.9	.99	.50
	OUTPUT TORQUE	273	276	279	285	292	299	304	311	318
	OUTPUT RPM	3000	2500	2000	1500	1000	800	400	200	100
	OUTPUT OHL	90	104	121	145	183	204	293	403	536

DALTON

MODEL RA 62-2 SERIES RIGHT ANGLE DRIVE UNITS

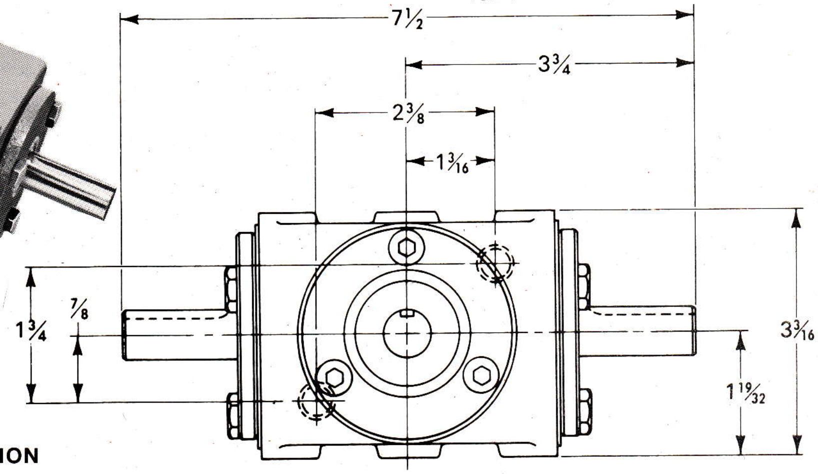
- **Rugged cast iron housing designed for rigid gear and bearing support.**
- **Alloy shafting for greater strength.**
- **Choice of Five (5) standard gear ratios.**
- **Precision ball bearings to accommodate higher operating speeds.**
- **Heavy duty industrial seals to keep lubricant in and dirt out.**
- **Universal mounting assures maximum design flexibility.**





STYLES AVAILABLE AND DRY SHIPPING WEIGHTS
STYLES
A, B, C, D, E, F .... 9 lbs.
STYLE G .... 10 lbs.

OIL CAPACITY BY VOLUME (APPROX.)
.25 PINTS



- **SEE PAGE 3 FOR LUBRICATION INSTRUCTIONS**
- **SEE PAGE 17 FOR SHAFT ARRANGEMENT & ROTATION**

***SHAFT DIMENSIONS TYPICAL FOR ALL SHAFT EXTENSIONS**

RATING TABLE

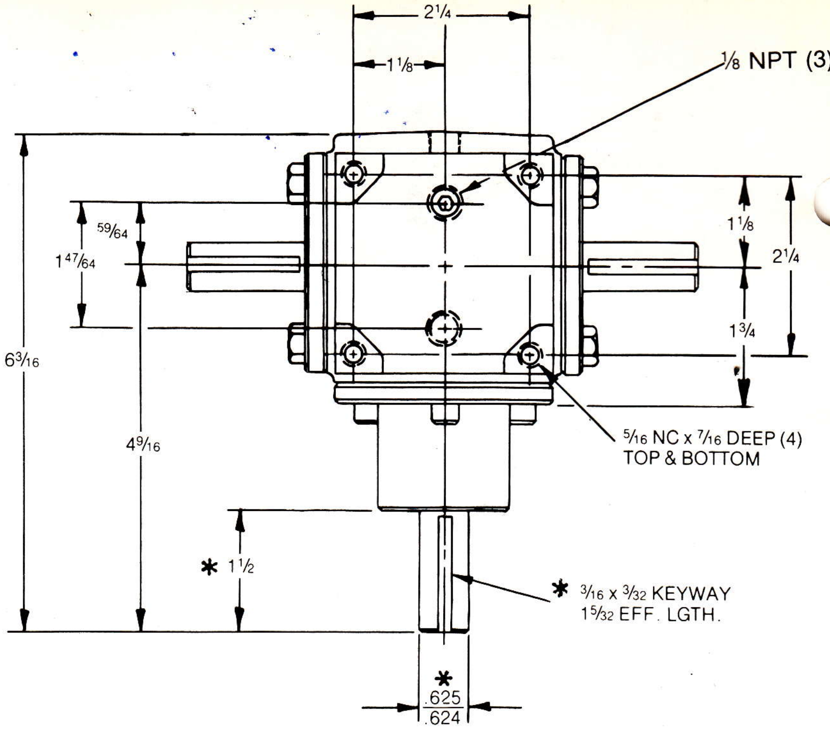
INPUT RPM†		REDUCTION RATIOS			★ INCREASER RATIOS	
		1:1	1.5:1	2:1	1:1.5	1:2
1750	INPUT HORSEPOWER	2.25	1.57	1.04	2.10	
	OUTPUT TORQUE In. lbs.	81.00	84.00	75.00	50.00	
	‡INPUT O.H.L.	88.00	98.00	102.00	95.00	
	‡OUTPUT O.H.L.	177.00	245.00	300.00	89.00	
1150	INPUT HORSEPOWER	1.50	1.03	.70	1.40	1.20
	OUTPUT TORQUE In. lbs.	83.00	85.00	77.00	51.00	33.00
	‡INPUT O.H.L.	110.00	118.00	121.00	114.00	110.00
	‡OUTPUT O.H.L.	205.00	290.00	350.00	104.00	96.00
850	INPUT HORSEPOWER	1.13	.80	.53	1.05	.92
	OUTPUT TORQUE In. lbs.	84.00	88.00	78.00	51.50	34.00
	‡INPUT O.H.L.	131.00	137.00	142.00	134.00	128.00
	‡OUTPUT O.H.L.	240.00	320.00	382.00	119.00	111.00
690	INPUT HORSEPOWER	.93	.65	.43	.86	.76
	OUTPUT TORQUE In. lbs.	85.00	89.00	80.00	50.00	34.50
	‡INPUT O.H.L.	137.00	144.00	148.00	140.00	136.00
	‡OUTPUT O.H.L.	267.00	350.00	400.00	126.00	118.00
400	INPUT HORSEPOWER	.55	.39	.26	.50	.45
	OUTPUT TORQUE In. lbs.	87.00	92.00	82.00	53.00	35.50
	‡INPUT O.H.L.	169.00	175.00	180.00	173.00	168.00
	‡OUTPUT O.H.L.	330.00	400.00	400.00	157.00	149.00
300	INPUT HORSEPOWER	.42	.30	.20	.40	.34
	OUTPUT TORQUE In. lbs.	88.00	95.00	83.00	56.00	36.00
	‡INPUT O.H.L.	189.00	190.00	190.00	190.00	185.00
	‡OUTPUT O.H.L.	378.00	400.00	400.00	173.00	164.00
100	INPUT HORSEPOWER	.14	.12	.08	.14	.12
	OUTPUT TORQUE In. lbs.	90.00	113.00	100.00	59.00	38.00
	‡INPUT O.H.L.	190.00	190.00	190.00	190.00	190.00
	‡OUTPUT O.H.L.	400.00	400.00	400.00	190.00	190.00

†FOR HIGHER INPUT SPEEDS CONSULT FACTORY.
★AVAILABLE IN STYLE "G" ONLY.

‡OVERHUNG LOAD IN POUNDS AT CENTER OF SHAFT EXTENSIONS.

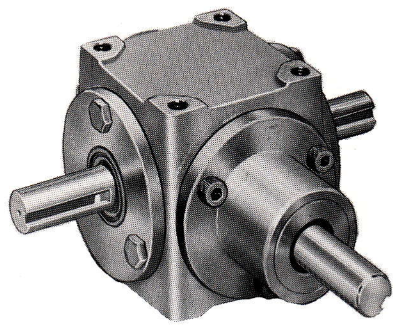
DALTON

MODEL RA 62-3 SERIES RIGHT ANGLE DRIVE UNITS

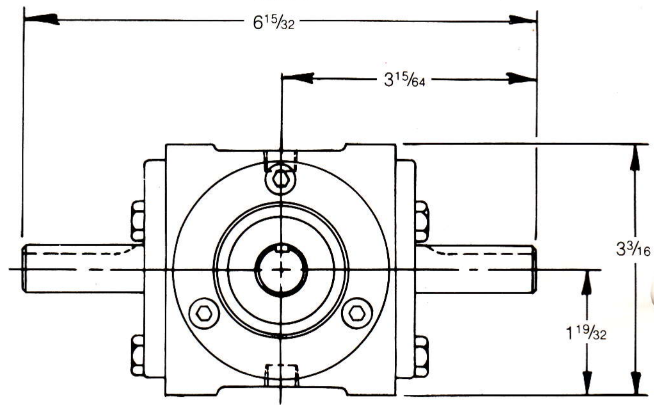


- **Rugged cast iron housing designed for rigid gear and bearing support.**
- **Alloy shafting for greater strength.**
- **Precision ball bearings to accommodate higher operating speeds.**
- **Choice of Five (5) standard gear ratios.**
- **Heavy duty industrial seals to keep lubricant in and dirt out.**
- **Universal mounting assures maximum design flexibility.**

STYLES AVAILABLE AND DRY SHIPPING WEIGHTS
STYLES
A, B, C, D, E, F .. 10 lbs.
STYLE G .... 12 lbs.
STYLE GG ...... 15 lbs.



OIL CAPACITY BY VOLUME (APPROX.) .25 PINTS



- **SEE PAGE 3 FOR LUBRICATION INSTRUCTIONS**
- **SEE PAGE 17 FOR SHAFT ARRANGEMENT & ROTATION**

***SHAFT DIMENSIONS TYPICAL FOR ALL SHAFT EXTENSIONS**

RATING TABLE

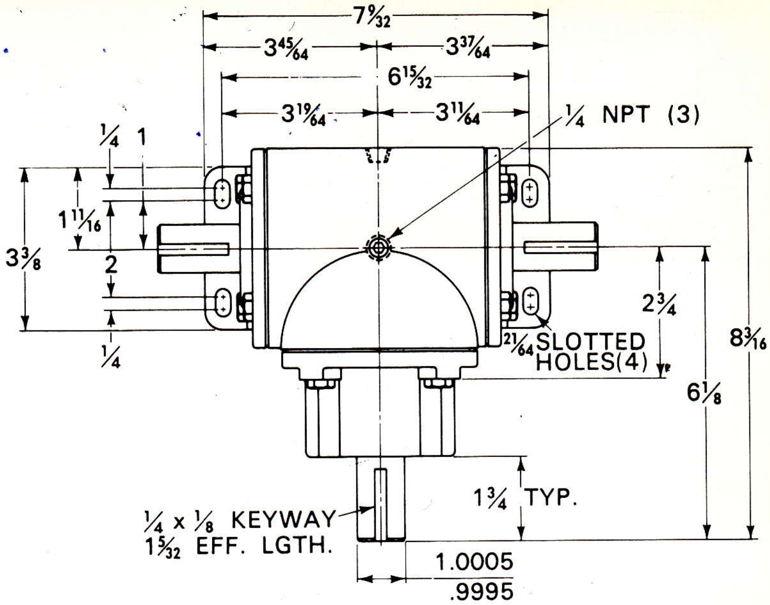
INPUT RPM†		REDUCTION RATIOS 1:1	REDUCTION RATIOS 1.5:1	REDUCTION RATIOS 2:1	* INCREASER RATIOS 1:1.5	* INCREASER RATIOS 1:2
1750	INPUT HORSEPOWER	2.25	1.57	1.04	2.10	
	OUTPUT TORQUE In. lbs.	81.00	84.00	75.00	50.00	
	‡INPUT O.H.L.	88.00	98.00	102.00	95.00	
	‡OUTPUT O.H.L.	177.00	245.00	300.00	89.00	
1150	INPUT HORSEPOWER	1.50	1.03	.70	1.40	1.20
	OUTPUT TORQUE In. lbs.	83.00	85.00	77.00	51.00	33.00
	‡INPUT O.H.L.	110.00	118.00	121.00	114.00	110.00
	‡OUTPUT O.H.L.	205.00	290.00	350.00	104.00	96.00
850	INPUT HORSEPOWER	1.13	.80	.53	1.05	.92
	OUTPUT TORQUE In. lbs.	84.00	88.00	78.00	51.50	34.00
	‡INPUT O.H.L.	131.00	137.00	142.00	134.00	128.00
	‡OUTPUT O.H.L.	240.00	320.00	382.00	119.00	111.00
690	INPUT HORSEPOWER	.93	.65	.43	.86	.76
	OUTPUT TORQUE In. lbs.	85.00	89.00	80.00	50.00	34.50
	‡INPUT O.H.L.	137.00	144.00	148.00	140.00	136.00
	‡OUTPUT O.H.L.	267.00	350.00	400.00	126.00	118.00
400	INPUT HORSEPOWER	.55	.39	.26	.50	.45
	OUTPUT TORQUE In. lbs.	87.00	92.00	82.00	53.00	35.50
	‡INPUT O.H.L.	169.00	175.00	180.00	173.00	168.00
	‡OUTPUT O.H.L.	330.00	400.00	400.00	157.00	149.00
300	INPUT HORSEPOWER	.42	.30	.20	.40	.34
	OUTPUT TORQUE In. lbs.	88.00	95.00	83.00	56.00	36.00
	‡INPUT O.H.L.	189.00	190.00	190.00	190.00	185.00
	‡OUTPUT O.H.L.	378.00	400.00	400.00	173.00	164.00
100	INPUT HORSEPOWER	.14	.12	.08	.14	.12
	OUTPUT TORQUE In. lbs.	90.00	113.00	100.00	59.00	38.00
	‡INPUT O.H.L.	190.00	190.00	190.00	190.00	190.00
	‡OUTPUT O.H.L.	400.00	400.00	400.00	190.00	190.00

†FOR HIGHER INPUT SPEEDS CONSULT FACTORY.
*AVAILABLE IN STYLE "G" ONLY.

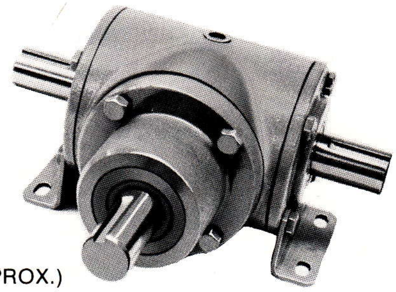
‡OVERHUNG LOAD IN POUNDS AT CENTER OF SHAFT EXTENSIONS.

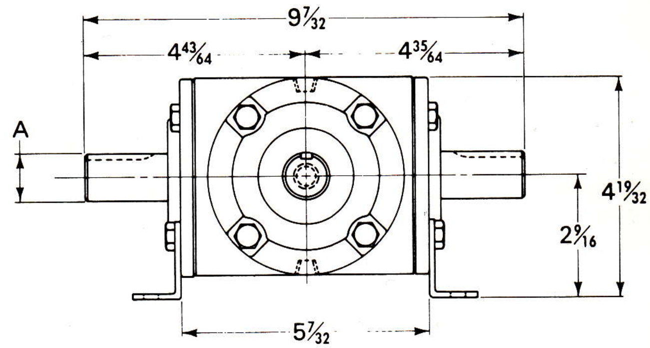
DALTON

MODEL RA 100-11 SERIES RIGHT ANGLE DRIVE UNITS



- Rugged cast iron housing designed for rigid gear and bearing support.
- Alloy shafting for greater strength.
- Tapered roller bearings for endurance and strength.
- Choice of five (5) standard gear ratios.
- Double lip, spring loaded seals to keep lubricant in and dirt out.
- Universal mounting assures maximum design flexibility.





STYLES AVAILABLE AND DRY SHIPPING WEIGHTS

STYLES

A, B, C, D, E, F .. 19 lbs.

STYLE G .... 23 lbs.

STYLE GG ...... 28 lbs.

OIL CAPACITY BY VOLUME (APPROX.) .40 PINTS

- SEE PAGE 3 FOR LUBRICATION INSTRUCTIONS
- SEE PAGE 17 FOR SHAFT ARRANGEMENT & ROTATION

*FOR STYLES A, B & GG ONLY.

CROSS SHAFT REDUCTION RATIOS					CROSS SHAFT INCREASER RATIOS		
RATIO	1 : 1	1 : 1 SPIRAL	1.47 : 1	1.8 : 1	RATIO	1 : 1.47	1 : 1.8
DIA. "A"	1.0005 / .9995				DIA. "A"	.7495 / .7505 *	.625 / .624 *
KEYWAY	1/4 x 1/8 x 1 5/32 EFF. LGTH				KEYWAY	3/16 x 3/32 x 1 7/32 EFF. LGTH.	

RATING TABLE

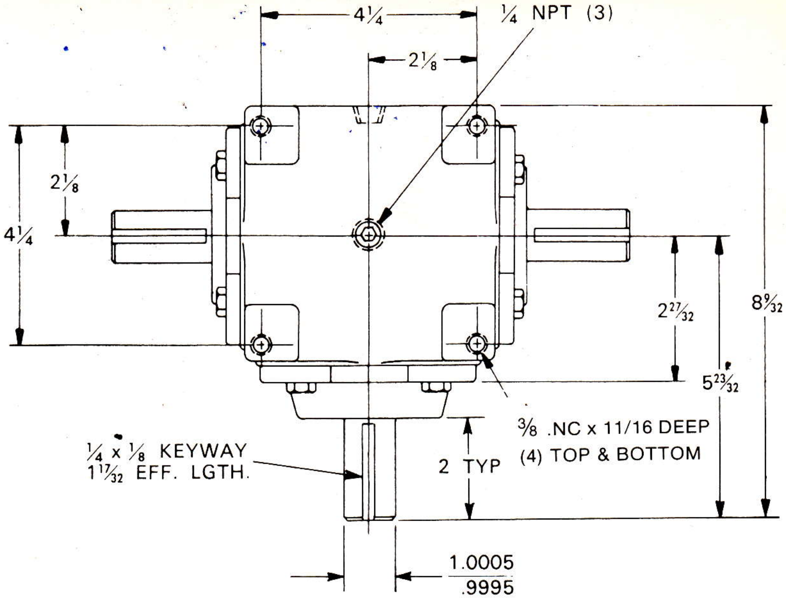
INPUT RPM†		REDUCTION RATIOS 1:1	SPIRAL 1:1	1.47:1	1.8:1	INCREASER RATIOS 1:1.47	1:1.8
1750	INPUT HORSEPOWER		16.00	6.10	5.40		
	OUTPUT TORQUE IN. LBS.		580.00	330.00	350.00		
	‡INPUT O.H.L.		80.00	277.00	255.00		
	‡OUTPUT O.H.L.		265.00	345.00	475.00		
1150	INPUT HORSEPOWER	12.00	11.00	4.20	3.60	5.60	5.55
	OUTPUT TORQUE IN. LBS.	660.00	600.00	340.00	355.00	205.00	169.00
	‡INPUT O.H.L.	190.00	93.00	322.00	303.00	261.00	273.00
	‡OUTPUT O.H.L.	280.00	310.00	405.00	545.00	225.00	135.00
850	INPUT HORSEPOWER	9.00	8.30	3.20	2.70	4.20	4.15
	OUTPUT TORQUE IN. LBS.	670.00	615.00	350.00	360.00	208.00	171.00
	‡INPUT O.H.L.	227.00	106.00	349.00	342.00	309.00	312.00
	‡OUTPUT O.H.L.	320.00	355.00	450.00	595.00	225.00	135.00
690	INPUT HORSEPOWER	7.60	6.80	2.60	2.20	3.50	3.40
	OUTPUT TORQUE IN. LBS.	680.00	620.00	360.00	362.00	213.00	173.00
	‡INPUT O.H.L.	248.00	139.00	388.00	371.00	348.00	341.00
	‡OUTPUT O.H.L.	360.00	395.00	495.00	575.00	225.00	135.00
400	INPUT HORSEPOWER	4.40	4.10	1.60	1.30	2.20	2.05
	OUTPUT TORQUE IN. LBS.	700.00	645.00	370.00	370.00	231.00	179.00
	‡INPUT O.H.L.	335.00	175.00	470.00	456.00	430.00	426.00
	‡OUTPUT O.H.L.	430.00	475.00	630.00	770.00	225.00	135.00
300	INPUT HORSEPOWER	3.40	3.10	1.20	1.00	1.70	1.55
	OUTPUT TORQUE IN. LBS.	710.00	650.00	380.00	393.00	238.00	181.00
	‡INPUT O.H.L.	381.00	225.00	523.00	505.00	464.00	475.00
	‡OUTPUT O.H.L.	500.00	550.00	680.00	800.00	225.00	135.00
100	INPUT HORSEPOWER	1.20	1.10	.44	.40	.68	.54
	OUTPUT TORQUE IN. LBS.	730.00	693.00	415.00	456.00	286.00	189.00
	‡INPUT O.H.L.	600.00	445.00	600.00	600.00	600.00	600.00
	‡OUTPUT O.H.L.	740.00	800.00	800.00	800.00	225.00	135.00

†FOR HIGHER INPUT SPEEDS CONSULT FACTORY.

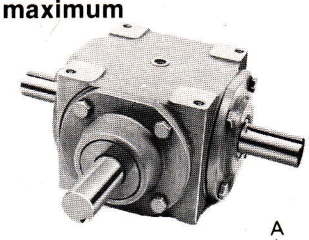
‡OVERHUNG LOAD IN LBS. AT CENTER OF SHAFT EXTENSION.

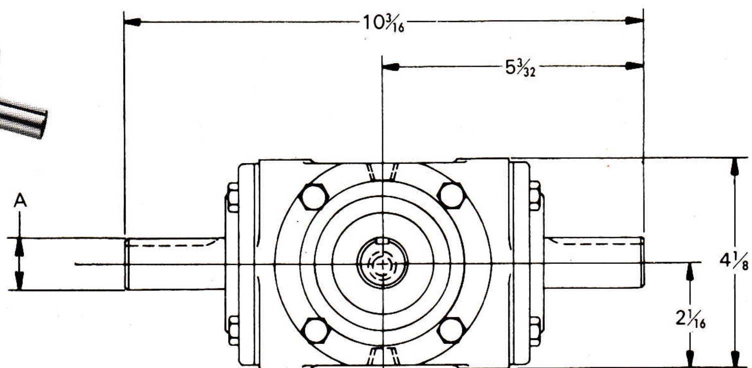
DALTON

MODEL RA 100-150 SERIES RIGHT ANGLE DRIVE UNITS



- Rugged cast iron housing designed for rigid gear and bearing support.
- Alloy shafting for greater strength.
- Tapered roller bearings for endurance and strength.
- Choice of five (5) standard gear ratios.
- Double lip, spring loaded seals to keep lubricant in and dirt out.
- Universal mounting assures maximum design flexibility.





STYLES AVAILABLE AND DRY SHIPPING WEIGHTS
STYLES
A, B, C, D, E, F .. 25 lbs.
STYLE G .... 28 lbs.
STYLE GG ...... 34 lbs.

- **SEE PAGE 3 FOR LUBRICATION INSTRUCTIONS**
- **SEE PAGE 17 FOR SHAFT ARRANGEMENT & ROTATION**

OIL CAPACITY BY VOLUME (APPROX.)
.75 PINTS

***FOR STYLES A, B & GG ONLY.**

CROSS SHAFT REDUCTION RATIOS				
RATIO	1 : 1	1 : 1 SPIRAL	1.5 : 1	2 : 1
DIA. "A"	1.0005 / .9995			
KEYWAY	¼ x ⅛ x $1\frac{17}{32}$ EFF. LGTH.			

CROSS SHAFT INCREASER RATIOS		
RATIO	1 : 1.5	1 : 2
DIA. "A"	.625 / .624 *	
KEYWAY	$\frac{3}{16}$ x $\frac{3}{32}$ x $1\frac{19}{32}$ EFF. LGTH.	

RATING TABLE

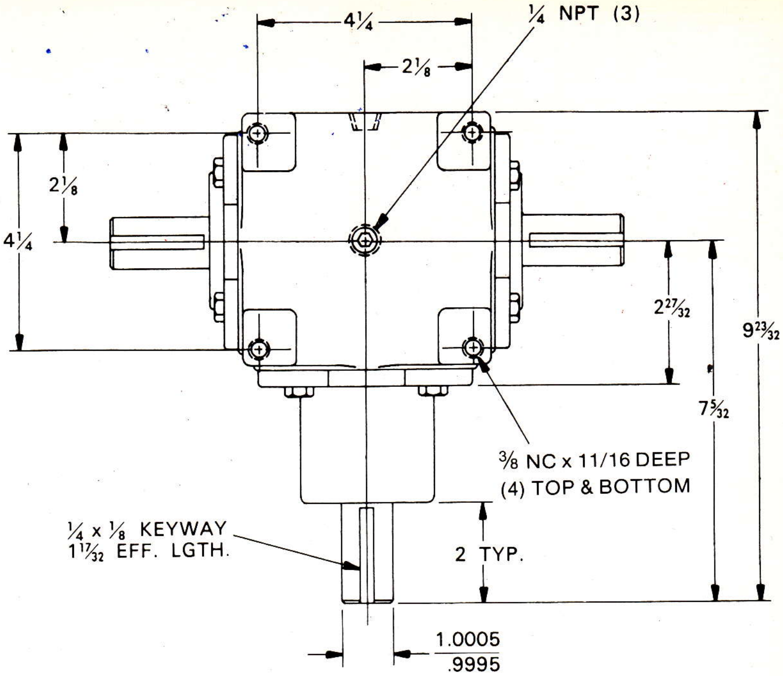
INPUT RPM†		REDUCTION RATIOS 1:1	SPIRAL 1:1	1.5:1	2:1	INCREASER RATIOS 1:1.5	1:2
1750	INPUT HORSEPOWER		16.00	9.20	6.25		
	OUTPUT TORQUE In. lbs.		580.00	500.00	442.00		
	‡INPUT O.H.L.		106.00	127.00	191.00		
	‡OUTPUT O.H.L.		265.00	320.00	455.00		
1150	INPUT HORSEPOWER	12.00	11.00	6.20	4.25	8.20	7.20
	OUTPUT TORQUE In. lbs.	660.00	600.00	510.00	465.00	299.00	195.00
	‡INPUT O.H.L.	112.00	124.00	197.00	240.00	168.00	237.00
	‡OUTPUT O.H.L.	280.00	310.00	380.00	525.00	135.00	135.00
850	INPUT HORSEPOWER	9.00	8.30	4.70	3.25	6.10	5.70
	OUTPUT TORQUE In. lbs.	670.00	615.00	520.00	481.00	301.00	210.00
	‡INPUT O.H.L.	128.00	142.00	249.00	337.00	239.00	334.00
	‡OUTPUT O.H.L.	320.00	355.00	425.00	575.00	135.00	135.00
690	INPUT HORSEPOWER	7.60	6.80	3.90	2.70	5.00	4.70
	OUTPUT TORQUE In. lbs.	680.00	620.00	530.00	494.00	304.00	215.00
	‡INPUT O.H.L.	144.00	158.00	286.00	371.00	273.00	365.00
	‡OUTPUT O.H.L.	360.00	395.00	470.00	555.00	135.00	135.00
400	INPUT HORSEPOWER	4.40	4.10	2.30	1.60	3.00	2.80
	OUTPUT TORQUE In. lbs.	700.00	645.00	550.00	504.00	315.00	220.00
	‡INPUT O.H.L.	172.00	190.00	412.00	450.00	396.00	432.00
	‡OUTPUT O.H.L.	430.00	475.00	610.00	780.00	135.00	135.00
300	INPUT HORSEPOWER	3.40	3.10	1.80	1.25	2.30	2.20
	OUTPUT TORQUE In. lbs.	710.00	650.00	560.00	525.00	322.00	230.00
	‡INPUT O.H.L.	203.00	220.00	456.00	496.00	469.00	451.00
	‡OUTPUT O.H.L.	500.00	550.00	655.00	800.00	135.00	135.00
100	INPUT HORSEPOWER	1.20	1.10	.65	.50	.81	.75
	OUTPUT TORQUE In. lbs.	730.00	693.00	615.00	630.00	340.00	235.00
	‡INPUT O.H.L.	363.00	332.00	600.00	600.00	600.00	600.00
	‡OUTPUT O.H.L.	740.00	800.00	800.00	800.00	135.00	135.00

†FOR HIGHER INPUT SPEEDS CONSULT FACTORY.

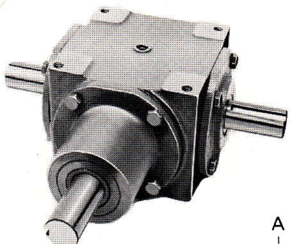
‡OVERHUNG LOAD IN LBS. AT CENTER OF SHAFT EXTENSIONS.

DALTON

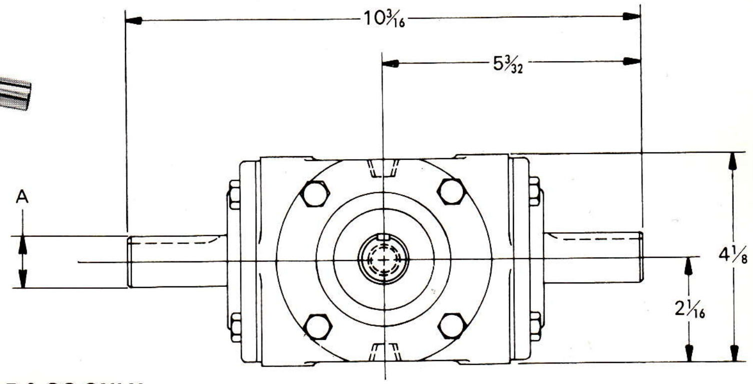
MODEL RA 100-165 SERIES RIGHT ANGLE DRIVE UNITS



- **Rugged cast iron housing designed for rigid gear and bearing support.**
- **Alloy shafting for greater strength.**
- **Tapered roller bearings for endurance and strength.**
- **Choice of five (5) standard gear ratios.**
- **Double lip, spring loaded seals to keep lubricant in and dirt out.**
- **Universal mounting assures maximum design flexibility.**



STYLES AVAILABLE AND DRY SHIPPING WEIGHTS
STYLES
A, B, C, D, E, F .. 27 lbs.
STYLE G .... 31 lbs.
STYLE GG ...... 36 lbs.



- **SEE PAGE 3 FOR LUBRICATION INSTRUCTIONS**
- **SEE PAGE 17 FOR SHAFT ARRANGEMENT & ROTATION**

OIL CAPACITY BY VOLUME (APPROX.)
.75 PINTS

CROSS SHAFT REDUCTION RATIOS

RATIO	1 : 1	1 : 1 SPIRAL	1.5 : 1	2 : 1
DIA. "A"	1.0005 .9995			
KEYWAY	¼ x ⅛ x 1 17/32 EFF. LGTH.			

CROSS SHAFT INCREASER RATIOS

RATIO	1 : 1.5	1 : 2
DIA. "A"	.625 .624 *	
KEYWAY	3/16 x 3/32 x 1 19/32 EFF. LGTH.	

*FOR STYLES A, B & GG ONLY.

RATING TABLE

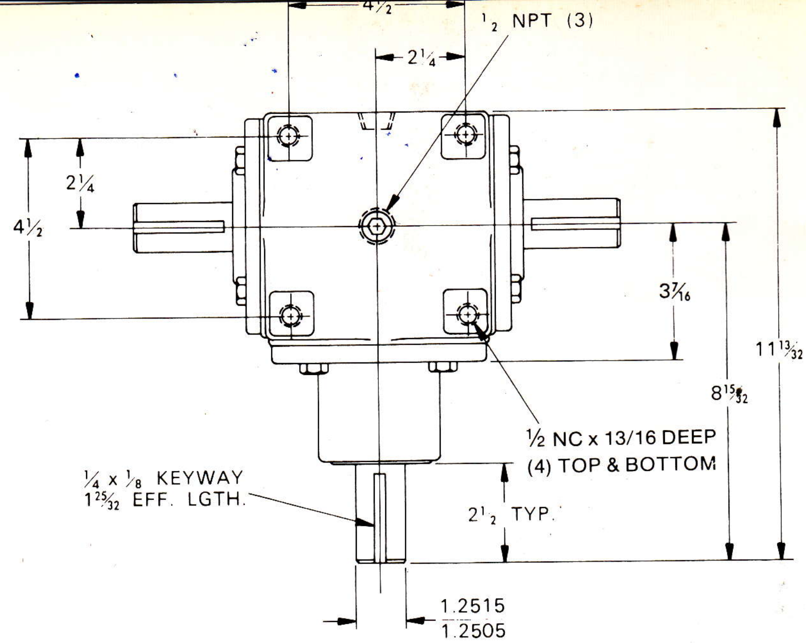
INPUT RPM†		REDUCTION RATIOS 1:1	SPIRAL 1:1	1.5:1	2:1	INCREASER RATIOS 1:1.5	1:2
1750	INPUT HORSEPOWER		16.00	9.20	6.25		
	OUTPUT TORQUE IN. LBS.		580.00	500.00	442.00		
	‡INPUT O.H.L.		114.00	366.00	372.00		
	‡OUTPUT O.H.L.		265.00	320.00	455.00		
1150	INPUT HORSEPOWER	17.00	11.00	6.20	4.25	8.20	7.20
	OUTPUT TORQUE IN. LBS.	930.00	600.00	510.00	465.00	299.00	195.00
	‡INPUT O.H.L.	79.00	182.00	426.00	434.00	429.00	426.00
	‡OUTPUT O.H.L.	260.00	310.00	380.00	525.00	135.00	135.00
850	INPUT HORSEPOWER	13.00	8.30	4.70	3.25	6.10	5.70
	OUTPUT TORQUE IN. LBS.	960.00	615.00	520.00	481.00	301.00	210.00
	‡INPUT O.H.L.	121.00	211.00	473.00	481.00	477.00	469.00
	‡OUTPUT O.H.L.	305.00	355.00	425.00	555.00	135.00	135.00
690	INPUT HORSEPOWER	10.60	6.80	3.90	2.70	5.00	4.70
	OUTPUT TORQUE IN. LBS.	970.00	620.00	530.00	494.00	304.00	215.00
	‡INPUT O.H.L.	156.00	243.00	508.00	517.00	512.00	500.00
	‡OUTPUT O.H.L.	345.00	395.00	470.00	575.00	135.00	135.00
400	INPUT HORSEPOWER	6.30	4.10	2.30	1.60	3.00	2.80
	OUTPUT TORQUE IN. LBS.	1000.00	645.00	550.00	504.00	315.00	220.00
	‡INPUT O.H.L.	374.00	319.00	600.00	600.00	600.00	600.00
	‡OUTPUT O.H.L.	425.00	475.00	610.00	780.00	135.00	135.00
300	INPUT HORSEPOWER	5.00	3.10	1.80	1.25	2.30	2.20
	OUTPUT TORQUE IN. LBS.	1010.00	650.00	560.00	525.00	322.00	230.00
	‡INPUT O.H.L.	450.00	384.00	600.00	600.00	600.00	600.00
	‡OUTPUT O.H.L.	500.00	550.00	655.00	800.00	135.00	135.00
100	INPUT HORSEPOWER	1.65	1.10	.65	.50	.81	.75
	OUTPUT TORQUE IN. LBS.	1040.00	693.00	615.00	630.00	340.00	235.00
	‡INPUT O.H.L.	600.00	600.00	600.00	600.00	600.00	600.00
	‡OUTPUT O.H.L.	775.00	800.00	800.00	800.00	135.00	135.00

†FOR HIGHER INPUT SPEEDS CONSULT FACTORY.

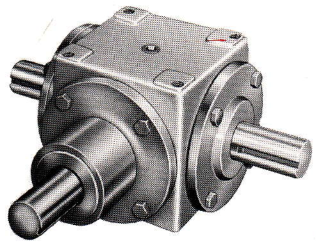
‡OVERHUNG LOAD IN LBS. AT CENTER OF SHAFT EXTENSIONS.

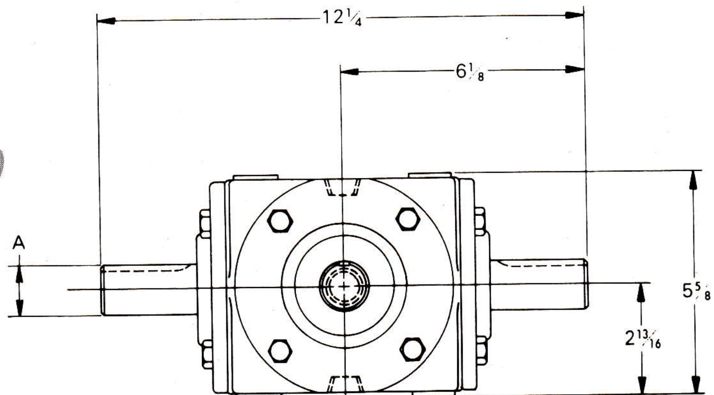
DALTON

MODEL RA 125-66 SERIES RIGHT ANGLE DRIVE UNITS



- **Rugged cast iron housing designed for rigid gear and bearing support.**
- **Alloy shafting for greater strength.**
- **Tapered roller bearings for endurance and strength.**
- **Choice of nine (9) standard gear ratios.**
- **Double lip, spring loaded seals to keep lubricant in and dirt out.**
- **Universal mounting assures maximum design flexibility.**





STYLES AVAILABLE AND DRY SHIPPING WEIGHTS

STYLES

A, B, C, D, E, F .. 48 lbs.
STYLE G .... 57 lbs.
STYLE GG ...... 65 lbs.

- **SEE PAGE 3 FOR LUBRICATION INSTRUCTIONS**
- **SEE PAGE 17 FOR SHAFT ARRANGEMENT & ROTATION**

OIL CAPACITY BY VOLUME (APPROX.)
1.5 PINTS

***FOR STYLES A, B & GG ONLY.**

CROSS SHAFT REDUCTION RATIOS						
RATIO	1:1	SPIRAL 1:1	1.36:1	1.5:1	SPIRAL 1.53:1	2:1
DIA. A	1.2515 1.2505					
KEYWAY	¼ x ⅛ x 1 29/32 EFF. LGTH.					

CROSS SHAFT INCREASER RATIOS				
RATIO	1:1.36	1:1.5	SPIRAL 1:1.53	1:2
DIA. A	1.2515 1.2505	1.2515 1.2505	1.1265 1.1255 *	1.0005 .9995 *
KEYWAY	¼ x ⅛ x 1 29/32 EFF. LGTH.			

RATING TABLE

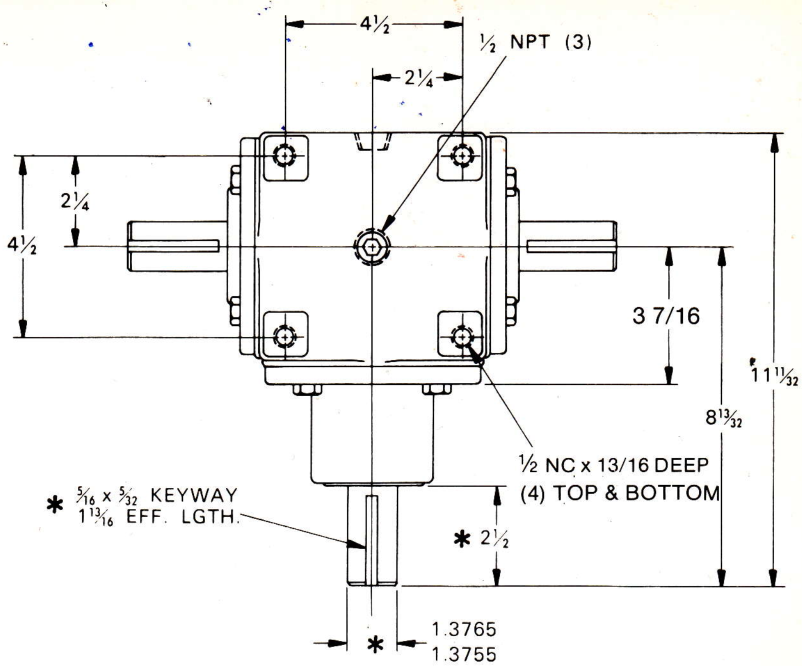
INPUT RPM†		REDUCTION RATIOS 1:1	SPIRAL 1:1	1.36:1△	1.5:1	SPIRAL 1.53:1	2:1	INCREASER RATIOS 1:1.36△	1:1.5	SPIRAL 1:1.53	1:2
1750	INPUT HORSEPOWER		46.00		15.00	35.00	7.30			49.00	
	OUTPUT TORQUE IN. LBS.		1650.00		810.00	1887.00	525.00			1180.00	
	‡INPUT O.H.L.		62.00		351.00	97.00	459.00			79.00	
	‡OUTPUT O.H.L.		100.00		300.00	140.00	330.00			104.00	
1150	INPUT HORSEPOWER	24.20	30.50	11.40	10.60	23.00	5.40			34.50	
	OUTPUT TORQUE IN. LBS.	1320.00	1670.00	815.00	870.00	1930.00	591.00			1260.00	
	‡INPUT O.H.L.	126.00	109.00	490.00	446.00	133.00	521.00			102.00	
	‡OUTPUT O.H.L.	190.00	160.00	365.00	340.00	190.00	380.00			149.00	
850	INPUT HORSEPOWER	19.00	24.00	8.60	8.20	18.00	4.50	10.30	11.80	26.50	7.00
	OUTPUT TORQUE IN. LBS.	1410.00	1790.00	830.00	910.00	2000.00	667.00	561.00	580.00	1310.00	260.00
	‡INPUT O.H.L.	158.00	143.00	545.00	524.00	161.00	567.00	539.00	513.00	142.00	576.00
	‡OUTPUT O.H.L.	230.00	210.00	425.00	400.00	230.00	440.00	580.00	520.00	178.00	400.00
690	INPUT HORSEPOWER	16.30	20.00	7.20	7.10	15.00	3.90	8.60	9.80	21.80	6.75
	OUTPUT TORQUE IN. LBS.	1480.00	1830.00	855.00	970.00	2050.00	712.00	577.00	600.00	1330.00	308.00
	‡INPUT O.H.L.	213.00	178.00	586.00	558.00	217.00	603.00	579.00	559.00	212.00	598.00
	‡OUTPUT O.H.L.	265.00	250.00	470.00	445.00	270.00	465.00	628.00	558.00	213.00	400.00
400	INPUT HORSEPOWER	10.30	13.00	4.60	4.40	9.20	2.40	5.60	6.30	13.00	4.20
	OUTPUT TORQUE IN. LBS.	1630.00	2050.00	940.00	1040.00	2170.00	740.00	649.00	660.00	1365.00	330.00
	‡INPUT O.H.L.	261.00	254.00	701.00	676.00	283.00	726.00	691.00	678.00	261.00	719.00
	‡OUTPUT O.H.L.	350.00	350.00	610.00	590.00	385.00	650.00	754.00	679.00	307.00	400.00
300	INPUT HORSEPOWER	8.14	10.00	3.40	3.50	7.00	1.80	4.30	4.90	10.00	3.25
	OUTPUT TORQUE IN. LBS.	1700.00	2100.00	970.00	1100.00	2205.00	756.00	664.00	685.00	1400.00	340.00
	‡INPUT O.H.L.	418.00	312.00	780.00	744.00	421.00	806.00	765.00	750.00	370.00	793.00
	‡OUTPUT O.H.L.	425.00	420.00	670.00	645.00	425.00	715.00	840.00	770.00	393.00	400.00
100	INPUT HORSEPOWER	2.86	3.70	1.40	1.40	3.00	.70	2.00	1.80	3.50	1.30
	OUTPUT TORQUE IN. LBS.	1800.00	2330.00	1150.00	1320.00	2835.00	882.00	926.00	775.00	1470.00	410.00
	‡INPUT O.H.L.	625.00	493.00	900.00	900.00	611.00	900.00	900.00	900.00	420.00	900.00
	‡OUTPUT O.H.L.	695.00	685.00	990.00	965.00	685.00	1080.00	900.00	900.00	620.00	400.00

†FOR HIGHER INPUT SPEEDS CONSULT FACTORY.
‡OVERHUNG LOAD IN LBS. AT CENTER SHAFT EXTENSIONS.

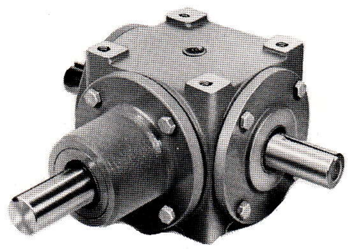
△MFG. TO ORDER — CONSULT FACTORY FOR PRICE AND DELIVERY.

DALTON

MODEL RA 137-600 SERIES RIGHT ANGLE DRIVE UNITS

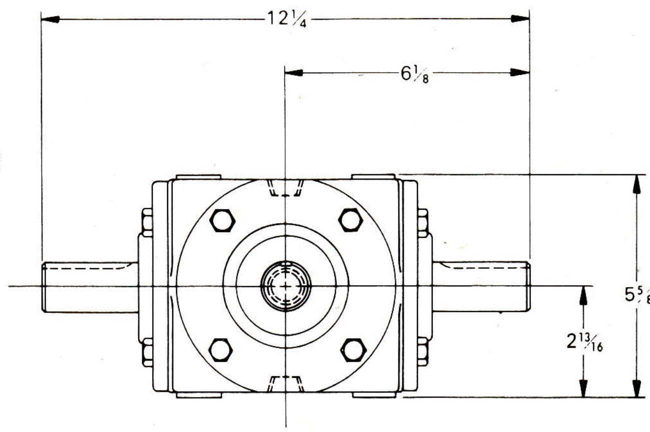


- **Rugged cast iron housing designed for rigid gear and bearing support.**
- **Alloy shafting for greater strength.**
- **Tapered roller bearings for endurance and strength.**
- **Choice of five (5) standard gear ratios.**
- **Double lip, spring loaded seals to keep lubricant in and dirt out.**
- **Universal mounting assures maximum design flexibility.**



STYLES AVAILABLE AND DRY SHIPPING WEIGHTS
STYLES
A, B, C, D, E, F .. 52 lbs.
STYLE G .... 60 lbs.
STYLE GG ...... 68 lbs.

OIL CAPACITY BY VOLUME (APPROX.)
1.5 PINTS



- **SEE PAGE 3 FOR LUBRICATION INSTRUCTIONS**
- **SEE PAGE 17 FOR SHAFT ARRANGEMENT & ROTATION**

***SHAFT DIMENSIONS TYPICAL FOR ALL SHAFT EXTENSIONS**

RATING TABLE

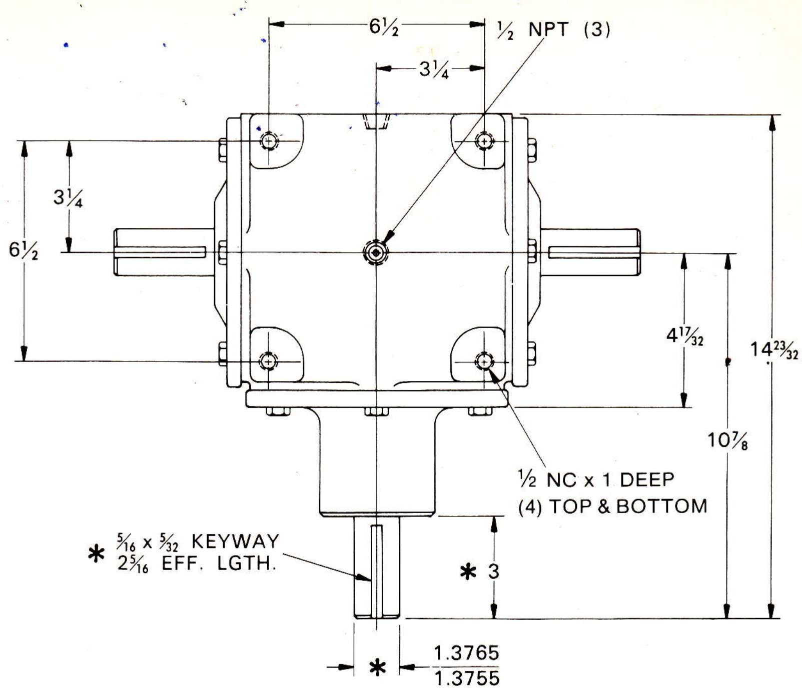
INPUT RPM†		REDUCTION RATIOS				INCREASER RATIOS	
		1:1	SPIRAL 1:1	SPIRAL 1.2:1△	SPIRAL 1.29:1△	SPIRAL 1:1.29△	SPIRAL 1:1.2△
2400	INPUT HORSEPOWER OUTPUT TORQUE IN. LBS. ‡INPUT O.H.L. ‡OUTPUT O.H.L.		59.00 1550.00 30.00 65.00	53.10 1670.00 63.00 75.00	46.30 1570.00 95.00 110.00	52.30 1063.00 28.00 64.00	55.70 1221.00 30.00 59.00
1750	INPUT HORSEPOWER OUTPUT TORQUE IN. LBS. ‡INPUT O.H.L. ‡OUTPUT O.H.L.		46.00 1650.00 62.00 100.00	39.80 1720.00 84.00 113.00	34.70 1610.00 129.00 130.00	39.30 1095.00 58.00 111.00	41.90 1258.00 50.00 96.00
1150	INPUT HORSEPOWER OUTPUT TORQUE IN. LBS. ‡INPUT O.H.L. ‡OUTPUT O.H.L.	34.00 1860.00 84.00 220.00	30.50 1670.00 109.00 160.00	27.00 1770.00 136.00 178.00	23.60 1660.00 199.00 190.00	26.70 1133.00 102.00 178.00	28.00 129.80 97.00 148.00
850	INPUT HORSEPOWER OUTPUT TORQUE IN. LBS. ‡INPUT O.H.L. ‡OUTPUT O.H.L.	28.30 2090.00 114.00 260.00	24.00 1790.00 143.00 210.00	20.30 1810.00 189.00 232.00	17.80 1700.00 253.00 275.00	20.10 1158.00 137.00 233.00	21.30 1317.00 117.00 191.00
690	INPUT HORSEPOWER OUTPUT TORQUE IN. LBS. ‡INPUT O.H.L. ‡OUTPUT O.H.L.	23.90 2180.00 163.00 290.00	20.00 1830.00 178.00 250.00	16.70 1830.00 215.00 316.00	14.60 1720.00 433.00 452.00	16.60 1174.00 168.00 292.00	17.66 1344.00 143.00 265.00
400	INPUT HORSEPOWER OUTPUT TORQUE IN. LBS. ‡INPUT O.H.L. ‡OUTPUT O.H.L.	15.20 2380.00 359.00 370.00	13.00 2050.00 254.00 350.00	9.94 1880.00 289.00 414.00	8.68 1760.00 544.00 563.00	9.90 1211.00 241.00 415.00	10.54 1385.00 216.00 356.00
300	INPUT HORSEPOWER OUTPUT TORQUE IN. LBS. ‡INPUT O.H.L. ‡OUTPUT O.H.L.	11.80 2480.00 418.00 445.00	10.00 2100.00 312.00 420.00	7.50 1890.00 343.00 497.00	6.58 1780.00 605.00 628.00	7.50 1228.00 301.00 462.00	7.95 1392.00 284.00 411.00
100	INPUT HORSEPOWER OUTPUT TORQUE IN. LBS. ‡INPUT O.H.L. ‡OUTPUT O.H.L.	4.30 2710.00 692.00 720.00	3.70 2330.00 493.00 685.00	2.61 1970.00 516.00 713.00	2.27 1850.00 817.00 850.00	2.60 1278.00 462.00 710.00	2.78 1461.00 423.00 630.00

†FOR HIGHER INPUT SPEEDS CONSULT FACTORY.
‡OVERHUNG LOAD IN LBS. AT CENTER OF SHAFT EXTENSIONS.

△MFG. TO ORDER — CONSULT FACTORY FOR PRICES AND DELIVERY.

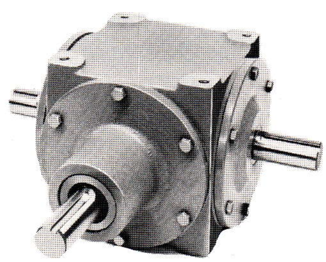
DALTON

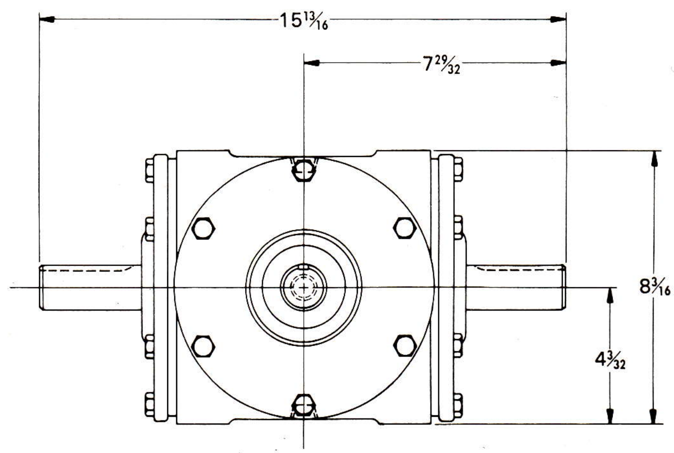
MODEL RA 137-88 SERIES RIGHT ANGLE DRIVE UNITS



- Rugged cast iron housing designed for rigid gear and bearing support.
- Alloy shafting for greater strength.
- Tapered roller bearings for endurance and strength.
- Choice of seven (7) standard gear ratios.
- Double lip, spring loaded seals to keep lubricant in and dirt out.
- Universal mounting assures maximum design flexibility.

STYLES AVAILABLE AND DRY SHIPPING WEIGHTS
STYLES
A, B, C, D, E, F .. 88 lbs.
STYLE G ...... 100 lbs.
STYLE GG ..... 112 lbs.





- **SEE PAGE 3 FOR LUBRICATION INSTRUCTIONS**
- **SEE PAGE 17 FOR SHAFT ARRANGEMENT & ROTATION**

OIL CAPACITY BY VOLUME (APPROX.)
5.0 PINTS

***SHAFT DIMENSIONS TYPICAL FOR ALL SHAFT EXTENSIONS**

RATING TABLE

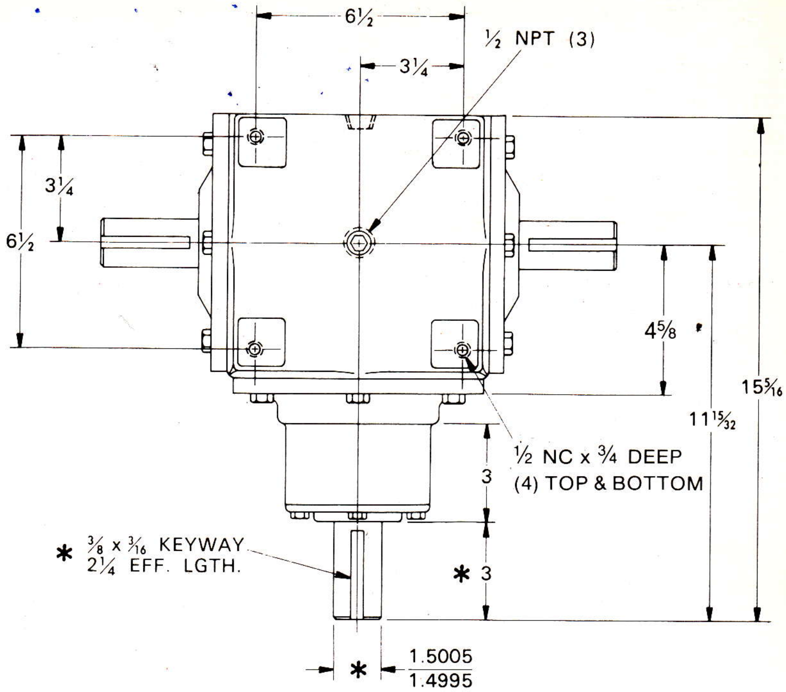
INPUT RPM†		REDUCTION RATIOS						INCREASER RATIOS			
		1:1	SPIRAL 1:1	1.5:1	SPIRAL 1.5:1	2:1	3:1	1:1.5	SPIRAL 1:1.5	1:2	1:3 *
1750	INPUT HORSEPOWER		90.00		69.00		15.00				
	OUTPUT TORQUE IN. LBS.		3240.00		3720.00		1621.00				
	‡INPUT O.H.L.		35.00		97.00		600.00				
	‡OUTPUT O.H.L.		320.00		475.00		760.00				
1150	INPUT HORSEPOWER		63.00	39.00	47.00	22.00	9.90		68.00		
	OUTPUT TORQUE IN. LBS.		3450.00	3200.00	3860.00	2410.00	1629.00		2480.00		
	‡INPUT O.H.L.		202.00	99.00	216.00	330.00	709.00		152.00		
	‡OUTPUT O.H.L.		370.00	570.00	600.00	700.00	820.00		219.00		
850	INPUT HORSEPOWER	44.00	48.00	29.00	35.70	16.50	7.50		51.00		
	OUTPUT TORQUE IN. LBS.	3260.00	3558.00	3220.00	3970.00	2446.00	1669.00		2520.00		
	‡INPUT O.H.L.	103.00	243.00	309.00	234.00	506.00	793.00		176.00		
	‡OUTPUT O.H.L.	385.00	410.00	600.00	625.00	850.00	900.00		252.00		
690	INPUT HORSEPOWER	36.50	39.50	24.00	29.50	13.80	6.50	25.00	42.50	26.00	11.40
	OUTPUT TORQUE IN. LBS.	3330.00	3607.00	3290.00	4040.00	2520.00	1780.00	1520.00	2585.00	1188.00	350.00
	‡INPUT O.H.L.	234.00	308.00	432.00	329.00	602.00	843.00	290.00	247.00	373.00	892.00
	‡OUTPUT O.H.L.	450.00	475.00	685.00	710.00	950.00	1200.00	710.00	356.00	603.00	641.00
400	INPUT HORSEPOWER	21.50	23.50	14.30	17.60	8.50	3.80	18.00	26.00	15.40	7.30
	OUTPUT TORQUE IN. LBS.	3390.00	3702.00	3380.00	4160.00	2680.00	1800.00	1890.00	2730.00	1210.00	380.00
	‡INPUT O.H.L.	514.00	429.00	565.00	546.00	925.00	1035.00	612.00	396.00	792.00	1062.00
	‡OUTPUT O.H.L.	565.00	590.00	910.00	930.00	1170.00	1400.00	831.00	498.00	819.00	778.00
300	INPUT HORSEPOWER	16.40	18.00	10.90	13.50	6.50	2.90	15.00	20.00	11.75	5.70
	OUTPUT TORQUE IN. LBS.	3440.00	3780.00	3435.00	4250.00	2730.00	1827.00	2020.00	2790.00	1235.00	400.00
	‡INPUT O.H.L.	600.00	486.00	794.00	631.00	1038.00	1147.00	700.00	452.00	996.00	1170.00
	‡OUTPUT O.H.L.	630.00	655.00	995.00	1020.00	1250.00	1475.00	889.00	514.00	987.00	860.00
100	INPUT HORSEPOWER	5.80	6.50	3.80	4.80	2.30	1.00	5.60	7.10	4.25	2.00
	OUTPUT TORQUE IN. LBS.	3650.00	4095.00	3590.00	4440.00	2898.00	1891.00	2350.00	2980.00	1340.00	420.00
	‡INPUT O.H.L.	1050.00	843.00	1400.00	1120.00	1400.00	1400.00	1235.00	608.00	1400.00	1400.00
	‡OUTPUT O.H.L.	1075.00	1100.00	1475.00	1500.00	1800.00	1800.00	1400.00	829.00	1400.00	1250.00

†FOR HIGHER INPUT SPEEDS CONSULT FACTORY.

‡OVERHUNG LOAD IN LBS. AT CENTER OF SHAFT EXTENSIONS.
*AVAILABLE IN STYLE G ONLY.

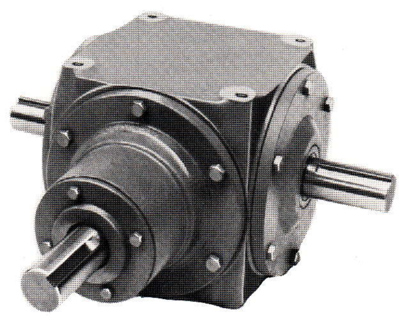
DALTON

MODEL RA 150-800 SERIES RIGHT ANGLE DRIVE UNITS

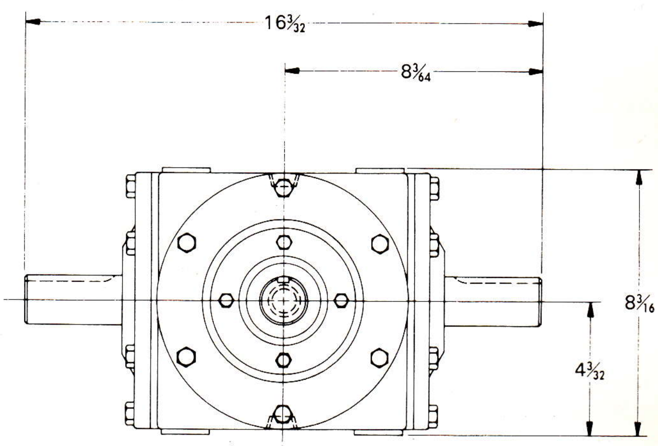


- **Rugged Ductile iron housing provides maximum gear and bearing support.**
- **High alloy shafting for greater strength..**
- **Tapered roller bearings for endurance and strength.**
- **Choice of nine (9) standard gear ratios.**
- **Double lip, spring loaded seals to keep lubricant in and dirt out.**
- **Universal mounting assures maximum design flexibility.**

STYLES AVAILABLE AND DRY SHIPPING WEIGHTS
STYLES
A, B, C, D, E, F . . 115 lbs.
STYLE G . . . . . . 123 lbs.
STYLE GG . . . . . 141 lbs.



OIL CAPACITY BY VOLUME (APPROX.) 5.0 PINTS



- **SEE PAGE 3 FOR LUBRICATION INSTRUCTIONS**
- **SEE PAGE 17 FOR SHAFT ARRANGEMENT & ROTATION**

RATING TABLE

AVAILABLE WITH 1.750 DIAMETER SHAFTS IN 1:1 AND 1:1 SPIRAL. OTHER RATIOS CONSULT FACTORY. (MODEL 810)

***SHAFT DIMENSIONS TYPICAL FOR ALL SHAFT EXTENSIONS**

INPUT RPM†		REDUCTION RATIOS						INCREASER RATIOS			
		1:1	SPIRAL 1:1	1.21:1△	1.33:1	1.5:1	1.71:1	1:1.21△	1:1.33	1:1.5	1:1.71△
1750	INPUT HORSEPOWER OUTPUT TORQUE IN. LBS. ‡INPUT O.H.L. ‡OUTPUT O.H.L.		132.00 4750.00 140.00 690.00								
1150	INPUT HORSEPOWER OUTPUT TORQUE IN. LBS. ‡INPUT O.H.L. ‡OUTPUT O.H.L.		90.00 4930.00 308.00 708.00			44.00 3620.00 1036.00 1280.00	33.00 3100.00 1076.00 1330.00				
850	INPUT HORSEPOWER OUTPUT TORQUE IN. LBS. ‡INPUT O.H.L. ‡OUTPUT O.H.L.		67.00 4970.00 478.00 870.00	48.00 4271.00 1062.00 1125.00	45.00 4350.00 1098.00 1175.00	34.00 3780.00 1162.00 1425.00	26.00 3280.00 1189.00 1475.00				
690	INPUT HORSEPOWER OUTPUT TORQUE IN. LBS. ‡INPUT O.H.L. ‡OUTPUT O.H.L.	56.20 5130.00 1040.00 940.00	56.00 5115.00 566.00 940.00	40.00 4383.00 1149.00 1185.00	37.00 4400.00 1192.00 1235.00	28.00 3840.00 1257.00 1525.00	21.60 3327.00 1280.00 1580.00	46.00 3500.00 1023.00 1076.00	48.00 3290.00 1020.00 1101.00	42.00 2560.00 1069.00 1066.00	29.10 1550.00 1174.00 1268.00
400	INPUT HORSEPOWER OUTPUT TORQUE IN. LBS. ‡INPUT O.H.L. ‡OUTPUT O.H.L.	33.80 5320.00 1309.00 1160.00	33.00 5200.00 934.00 1160.00	24.00 4527.00 1425.00 1515.00	22.10 4630.00 1471.00 1640.00	17.00 4010.00 1530.00 1970.00	13.00 3485.00 1558.00 1915.00	28.00 3780.00 1284.00 1400.00	28.80 3410.00 1292.00 1445.00	25.40 2710.00 1338.00 1387.00	18.30 1680.00 1446.00 1541.00
300	INPUT HORSEPOWER OUTPUT TORQUE IN. LBS. ‡INPUT O.H.L. ‡OUTPUT O.H.L.	25.80 5420.00 1474.00 1340.00	25.00 5250.00 1155.00 1340.00	19.00 4788.00 1572.00 1740.00	16.60 4720.00 1647.00 1790.00	13.00 4100.00 1699.00 2125.00	10.00 3580.00 1750.00 2195.00	22.00 3860.00 1430.00 1572.00	22.00 3460.00 1456.00 1646.00	20.00 2800.00 1484.00 1552.00	14.00 1720.00 1613.00 1750.00
100	INPUT HORSEPOWER OUTPUT TORQUE IN. LBS. ‡INPUT O.H.L. ‡OUTPUT O.H.L.	9.00 5660.00 1750.00 2080.00	9.00 5670.00 1750.00 2080.00	6.70 5067.00 1750.00 2560.00	6.10 5000.00 1750.00 2610.00	4.60 4350.00 1750.00 2770.00	3.40 3642.00 1750.00 3140.00	8.00 4200.00 1750.00 1750.00	7.80 3690.00 1750.00 1750.00	6.90 2900.00 1750.00 1750.00	5.10 1880.00 1750.00 1750.00

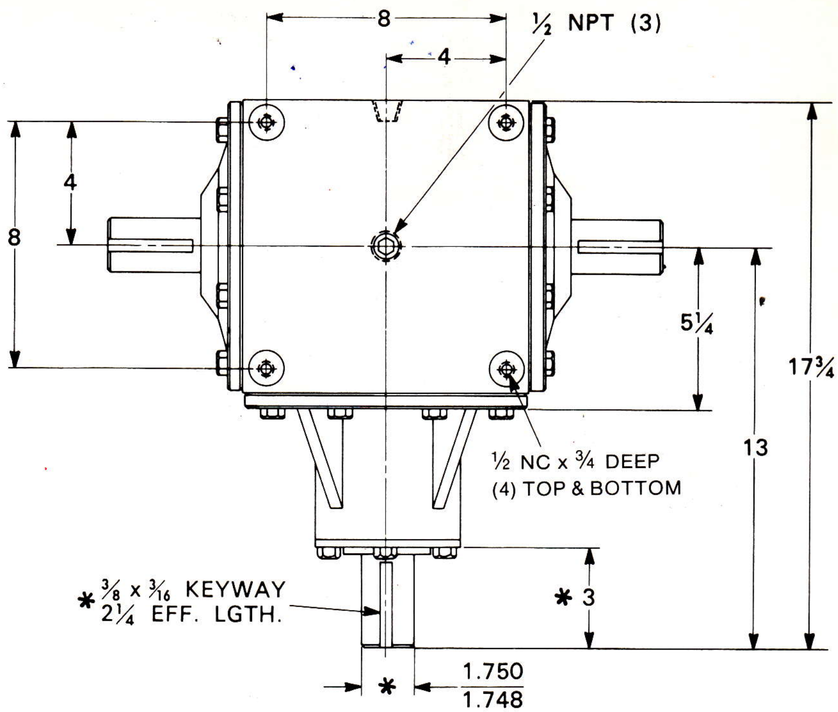
†FOR HIGHER INPUT SPEEDS CONSULT FACTORY.
‡OVERHUNG LOAD IN LBS. AT CENTER OF SHAFT EXTENSIONS.

△MFG. TO ORDER — CONSULT FACTORY FOR PRICE AND DELIVERY.

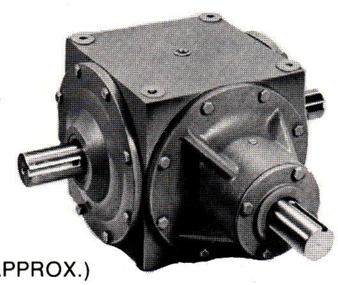
DALTON

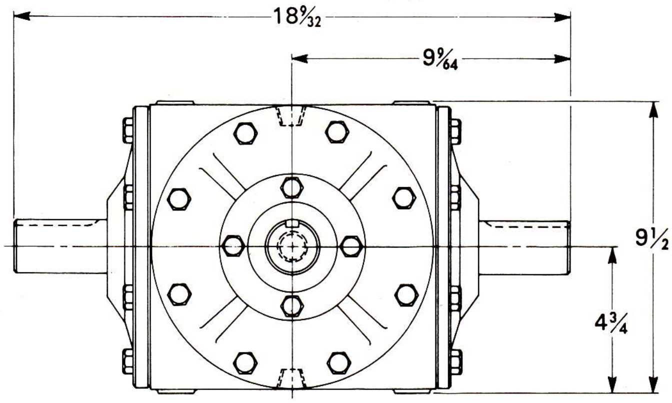
MODEL RA 175-1000 SERIES RIGHT ANGLE DRIVE UNITS

- Rugged ductile iron housing provides maximum gear and bearing support.
- High Alloy shafting for greater strength.
- Tapered roller bearings for endurance and strength.
- Choice of seven (7) standard gear ratios.
- Double lip, spring loaded seals to keep lubricant and dirt out.
- Universal mounting assures maximum design flexibility.



STYLES AVAILABLE AND DRY SHIPPING WEIGHTS
STYLES
A, B, C, D, E, F . . 136 lbs.
STYLE G . . . . . . 150 lbs.
STYLE GG 175 lbs.





OIL CAPACITY BY VOLUME (APPROX.)
10.0 PINTS

- SEE PAGE 3 FOR LUBRICATION INSTRUCTIONS
- SEE PAGE 17 FOR SHAFT ARRANGEMENT & ROTATION

*SHAFT DIMENSIONS TYPICAL FOR ALL SHAFT EXTENSIONS

RATING TABLE

INPUT RPM†		REDUCTION RATIOS				INCREASER RATIOS		
		1:1	1.21:1△	1.87:1	2.21:1	1:1.21△	1:1.87	*1:2.21
1750	INPUT HORSEPOWER							
	OUTPUT TORQUE IN. LBS.							
	‡INPUT O.H.L.							
	‡OUTPUT O.H.L.							
1150	INPUT HORSEPOWER							
	OUTPUT TORQUE IN. LBS.							
	‡INPUT O.H.L.							
	‡OUTPUT O.H.L.							
850	INPUT HORSEPOWER		63.00	43.00	31.00			
	OUTPUT TORQUE IN. LBS.		5606.00	5954.00	5059.00			
	‡INPUT O.H.L.		1090.00	1296.00	1311.00			
	‡OUTPUT O.H.L.		1525.00	1875.00	1550.00			
690	INPUT HORSEPOWER	80.00	55.00	39.00	26.00	57.00		
	OUTPUT TORQUE IN. LBS.	7304.00	6026.00	6660.00	5216.00	4337.00		
	‡INPUT O.H.L.	964.00	1153.00	1353.00	1410.00	1088.00		
	‡OUTPUT O.H.L.	875.00	1585.00	1980.00	1650.00	1252.00		
400	INPUT HORSEPOWER	53.30	35.00	24.00	17.00	39.00	34.60	28.80
	OUTPUT TORQUE IN. LBS.	8400.00	6602.00	7065.00	5890.00	5119.00	2910.00	2060.00
	‡INPUT O.H.L.	1161.00	1418.00	1651.00	1684.00	1280.00	1371.00	1461.00
	‡OUTPUT O.H.L.	1560.00	1915.00	2315.00	1810.00	1392.00	1408.00	1343.00
300	INPUT HORSEPOWER	41.50	27.00	18.50	13.00	29.00	27.70	22.90
	OUTPUT TORQUE IN. LBS.	8720.00	6804.00	7288.00	6022.00	4266.00	3110.00	2190.00
	‡INPUT O.H.L.	1323.00	1597.00	1842.00	1877.00	1312.00	1526.00	1616.00
	‡OUTPUT O.H.L.	1740.00	2140.00	2595.00	1950.00	1420.00	1567.00	1490.00
100	INPUT HORSEPOWER	17.00	11.00	7.00	4.80	13.00	9.80	8.50
	OUTPUT TORQUE IN. LBS.	10,700.00	8319.00	8005.00	6646.00	6825.00	3300.00	2430.00
	‡INPUT O.H.L.	2018.00	2360.00	2300.00	2500.00	1957.00	2360.00	2450.00
	‡OUTPUT O.H.L.	2480.00	2960.00	3540.00	2500.00	1981.00	2500.00	2197.00

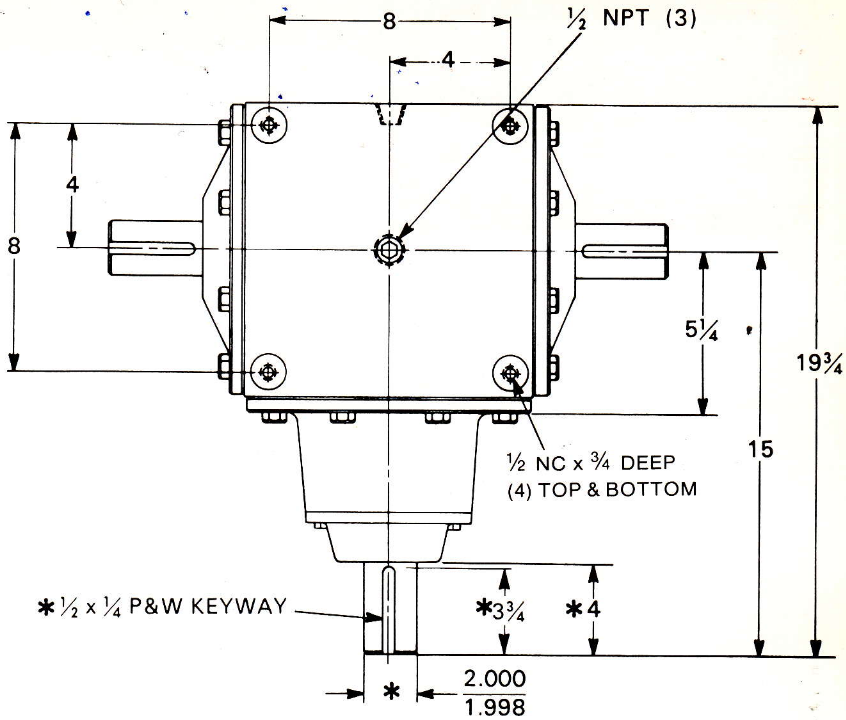
†FOR HIGHER INPUT SPEEDS CONSULT FACTORY.
‡OVERHUNG LOAD IN LBS. AT CENTER OF SHAFT EXTENSIONS.

△MFG. TO ORDER — CONSULT FACTORY FOR PRICE AND DELIVERY.
*AVAILABLE IN STYLE G ONLY.

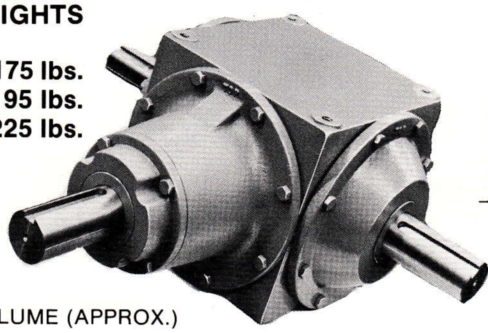
DALTON

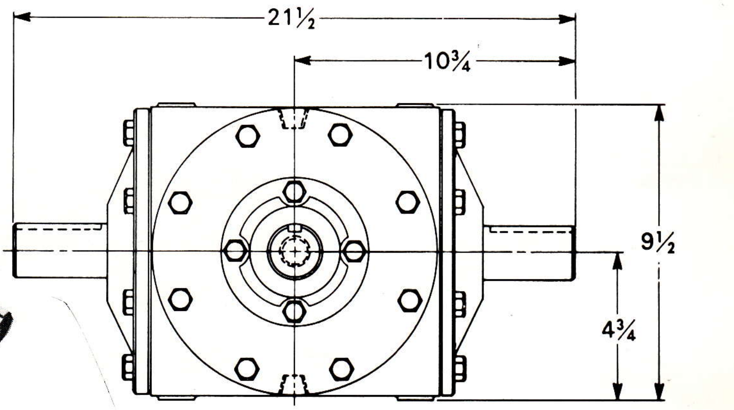
MODEL RA 200-1010 SERIES RIGHT ANGLE DRIVE UNITS

- Rugged ductile iron housing provides maximum gear and bearing support.
- High alloy shafting for greater strength.
- Tapered roller bearings for endurance and strength.
- Spiral bevel gearing to assure low noise level at higher operating speeds.
- Choice of four (4) standard gear ratios.
- Double lip, spring loaded seals to keep lubricant in and dirt out.
- Universal mounting to assure maximum design flexibility.



STYLES AVAILABLE AND DRY SHIPPING WEIGHTS
STYLES
A, B, C, D, E, F .. 175 lbs.
STYLE G ...... 195 lbs.
STYLE GG ..... 225 lbs.





OIL CAPACITY BY VOLUME (APPROX.)
10.0 PINTS

- **SEE PAGE 3 FOR LUBRICATION INSTRUCTIONS**
- **SEE PAGE 17 FOR SHAFT ARRANGEMENT & ROTATION**

***SHAFT DIMENSIONS TYPICAL FOR ALL SHAFT EXTENSIONS**

RATING TABLE

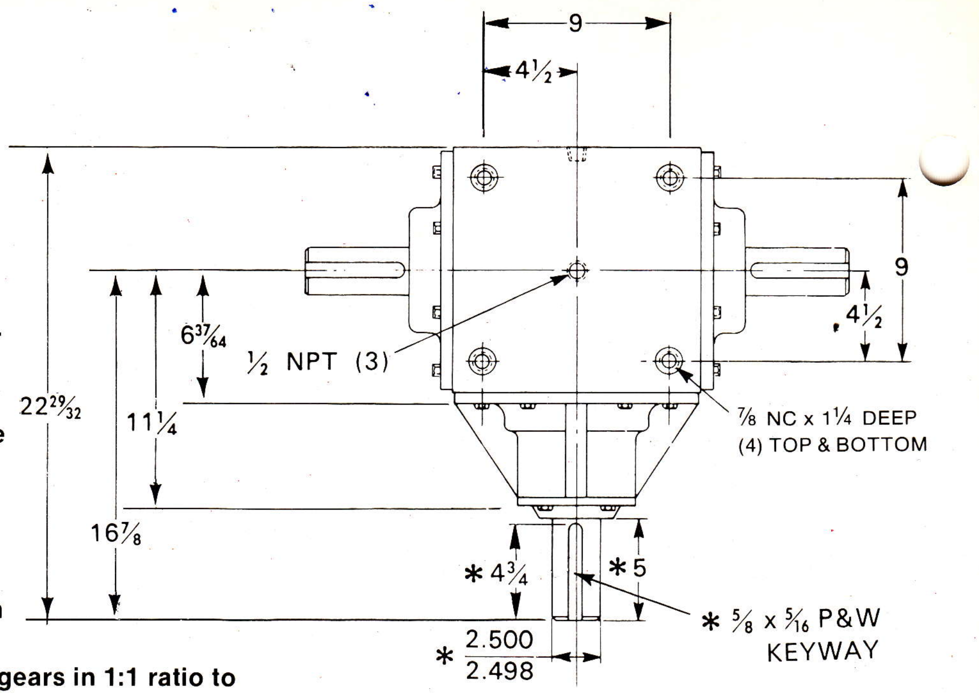
INPUT RPM†		REDUCTION RATIOS			INCREASER RATIO
		1:1	1.5:1	2:1	1:1.5
1750	INPUT HORSEPOWER	251.00	173.10	123.90	232.40
	OUTPUT TORQUE IN. LBS.	9039.00	9350.00	8924.00	5577.00
	‡INPUT O.H.L.	820.00	100.00	130.00	764.00
	‡OUTPUT O.H.L.	1398.00	2100.00	2100.00	681.00
1150	INPUT HORSEPOWER	173.00	118.20	84.40	159.40
	OUTPUT TORQUE IN. LBS.	9481.00	9717.00	9251.00	5821.00
	‡INPUT O.H.L.	1178.00	358.00	433.00	1134.00
	‡OUTPUT O.H.L.	2100.00	2100.00	2100.00	1385.00
850	INPUT HORSEPOWER	131.50	89.50	63.80	121.10
	OUTPUT TORQUE IN. LBS.	9750.00	9954.00	9461.00	5985.00
	‡INPUT O.H.L.	1493.00	665.00	748.00	1449.00
	‡OUTPUT O.H.L.	2100.00	2100.00	2100.00	1958.00
690	INPUT HORSEPOWER	108.60	73.80	52.50	100.10
	OUTPUT TORQUE IN. LBS.	9920.00	10,111.00	9591.00	6091.00
	‡INPUT O.H.L.	1737.00	902.00	994.00	1674.00
	‡OUTPUT O.H.L.	2100.00	2100.00	2100.00	2100.00
400	INPUT HORSEPOWER	65.60	44.30	31.40	60.40
	OUTPUT TORQUE IN. LBS.	10,320.00	10,470.00	9895.00	6341.00
	‡INPUT O.H.L.	1850.00	1635.00	1745.00	1850.00
	‡OUTPUT O.H.L.	2100.00	2100.00	2100.00	2100.00
300	INPUT HORSEPOWER	50.20	33.70	23.80	46.10
	OUTPUT TORQUE IN. LBS.	10,546.00	10,620.00	10,000.00	6606.00
	‡INPUT O.H.L.	1850.00	1850.00	1850.00	1850.00
	‡OUTPUT O.H.L.	2100.00	2100.00	2100.00	2100.00
100	INPUT HORSEPOWER	18.50	11.80	8.30	16.20
	OUTPUT TORQUE IN. LBS.	11,659.00	11,130.00	10,462.00	6815.00
	‡INPUT O.H.L.	1850.00	1850.00	1850.00	1850.00
	‡OUTPUT O.H.L.	2100.00	2100.00	2100.00	2100.00

†FOR HIGHER INPUT SPEEDS CONSULT FACTORY.
‡OVERHUNG LOAD IN LBS. AT CENTER OF SHAFT EXTENSIONS.

DALTON

MODEL RA 250-1200 SERIES RIGHT ANGLE DRIVE UNIT

- **Rugged ductile iron housing provides maximum gear and bearing support.**
- **High alloy shafting for greater strength.**
- **Tapered roller bearings for endurance and strength.**
- **Spiral bevel gearing to assure low noise level at higher operating speeds.**
- **Choice of five (5) standard gear ratios.**
- **Double lip, spring loaded seals to keep lubricant in and dirt out.**
- **Universal mounting to assure maximum design flexibility.**
- **Available with 8" or 10" pitch diameter gears in 1:1 ratio to provide optimum design flexibility.**

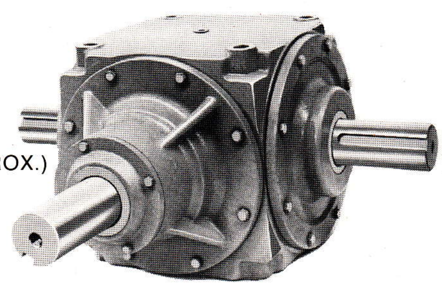


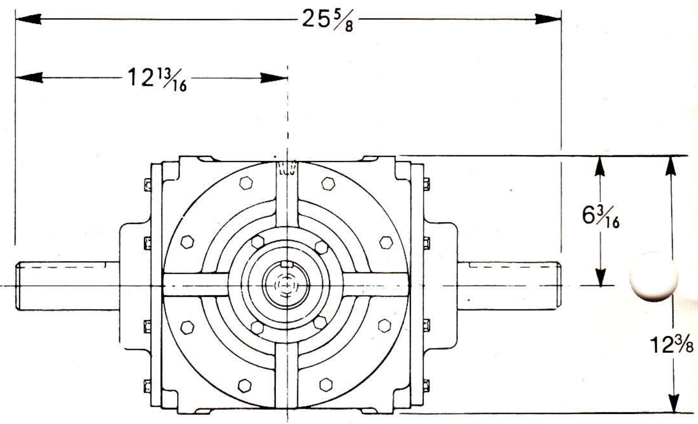
STYLES AVAILABLE AND DRY SHIPPING WEIGHTS

STYLES A, B, C, D, E, F . . . 300 lbs.
STYLE G . . . . 315 lbs.
STYLE GG . . . . 330 lbs.

OIL CAPACITY BY VOLUME (APPROX.) 20.0 PINTS

- **SEE PAGE 3 FOR LUBRICATION INSTRUCTIONS**
- **SEE PAGE 17 FOR SHAFT ARRANGEMENT & ROTATION**





***SHAFT DIMENSIONS TYPICAL FOR ALL SHAFT EXTENSIONS**

RATING TABLE

INPUT RPM†		REDUCTION RATIOS 1:1 (8")	1:1 (10")	1.33:1	1.5:1	2:1	3:1
1750	INPUT HORSEPOWER	296.00	380.00	246.00	196.00	224.00	118.00
	OUTPUT TORQUE IN. LBS.	10,680.00	13,685.00	11,821.00	10,591.00	16,148.00	12,749.00
	‡INPUT O.H.L.	118.00	177.00	104.00	109.00	102.00	117.00
	‡OUTPUT O.H.L.	396.00	155.00	657.00	1284.00	579.00	2217.00
1150	INPUT HORSEPOWER	203.50	261.00	168.00	134.00	155.00	79.00
	OUTPUT TORQUE IN. LBS.	11,148.00	14,304.00	12,278.00	11,005.00	16,931.00	13,051.00
	‡INPUT O.H.L.	238.00	391.00	209.00	213.00	196.00	236.00
	‡OUTPUT O.H.L.	816.00	570.00	1009.00	1692.00	960.00	2805.00
850	INPUT HORSEPOWER	154.70	199.00	128.00	102.00	116.00	60.00
	OUTPUT TORQUE IN. LBS.	11,466.00	14,755.00	12,694.00	11,347.00	17,584.00	13,363.00
	‡INPUT O.H.L.	296.00	570.00	319.00	326.00	250.00	292.00
	‡OUTPUT O.H.L.	1185.00	918.00	1244.00	1980.00	1199.00	3216.00
690	INPUT HORSEPOWER	127.80	164.50	106.00	85.00	97.00	49.00
	OUTPUT TORQUE IN. LBS.	11,670.00	15,025.00	12,900.00	11,551.00	17,584.00	13,521.00
	‡INPUT O.H.L.	437.00	714.00	396.00	391.00	340.00	392.00
	‡OUTPUT O.H.L.	1473.00	1197.00	1297.00	2081.00	1290.00	3591.00
400	INPUT HORSEPOWER	77.20	99.70	63.00	50.00	57.00	30.00
	OUTPUT TORQUE IN. LBS.	12,160.00	15,709.00	13,270.00	11,893.00	18,000.00	14,197.00
	‡INPUT O.H.L.	872.00	1153.00	759.00	777.00	532.00	713.00
	‡OUTPUT O.H.L.	2354.00	2050.00	2137.00	3001.00	1905.00	4200.00
300	INPUT HORSEPOWER	59.00	76.30	48.00	39.00	44.00	22.50
	OUTPUT TORQUE IN. LBS.	12,390.00	16,029.00	13,453.00	12,057.00	18,479.00	14,267.00
	‡INPUT O.H.L.	1148.00	1431.00	911.00	932.00	692.00	910.00
	‡OUTPUT O.H.L.	2911.00	2594.00	2594.00	3475.00	2668.00	4200.00
100	INPUT HORSEPOWER	21.00	27.00	17.00	14.00	16.00	7.70
	OUTPUT TORQUE IN. LBS.	13,230.00	17,017.00	14,184.00	13,087.00	20,281.00	14,600.00
	‡INPUT O.H.L.	2495.00	2813.00	1012.00	1079.00	820.00	1236.00
	‡OUTPUT O.H.L.	4200.00	4200.00	4200.00	4200.00	4200.00	4200.00

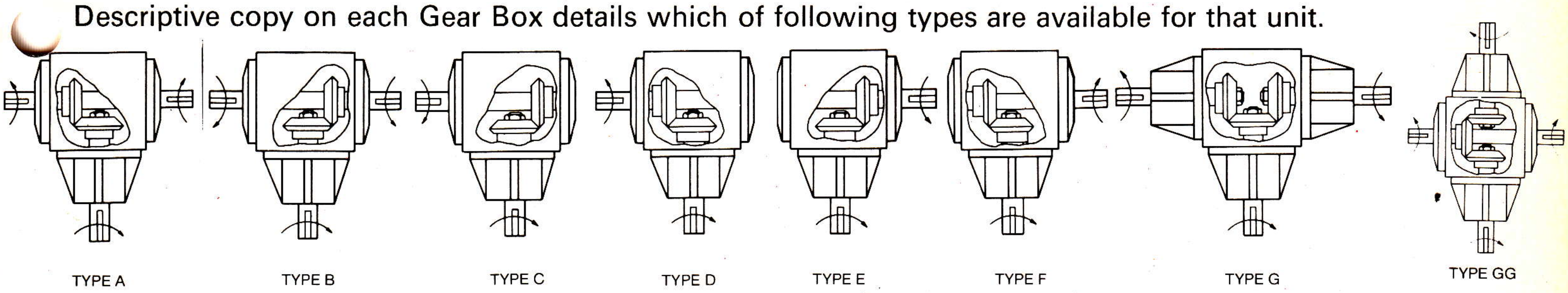
†FOR HIGHER INPUT SPEEDS CONSULT FACTORY
‡OVERHUNG LOAD IN LBS. AT CENTER OF SHAFT EXTENSIONS.

ΔMFG. TO ORDER — CONSULT FACTORY FOR PRICE AND DELIVERY.

SPECIAL DATA

SHAFT ARRANGEMENT AND ROTATION FOR RIGHT ANGLE GEAR BOXES

Descriptive copy on each Gear Box details which of following types are available for that unit.



APPLICATIONS

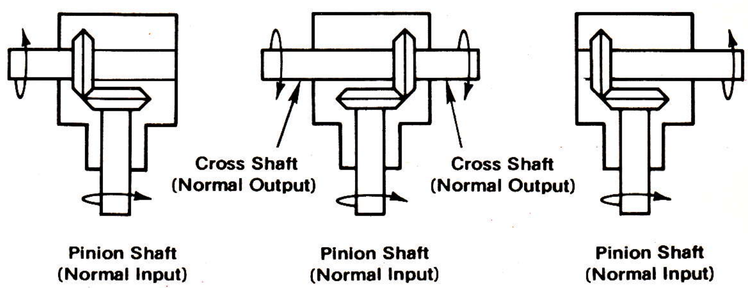
Bevel Gear Drives transfer power at 90°. Generally this power transfer is a 1:1 ratio with relation to speed. These gear drives are also capable of increasing or reducing speed.

THERMAL CAPACITY

The thermal capacity of a unit is the maximum capacity at which the unit will operate at a temperature not exceeding 200° F. Under certain conditions of high load and high RPM the thermal capacity may be somewhat less than the mechanical capacity. If thermal capacity is exceeded, provision must be made for additional cooling. This may be accomplished by fan cooling of the unit or external recirculation of lubricant. If additional cooling is not possible, a larger unit of greater capacity is recommended. Factory engineers are ready to assist designers with their problems, at all times.

SHAFT ROTATION

Relative shaft rotations are as shown below.
The Pinion Shaft can be rotated in either direction.



The above illustrations show common terms normally used in discussing Bevel Gear Drives.

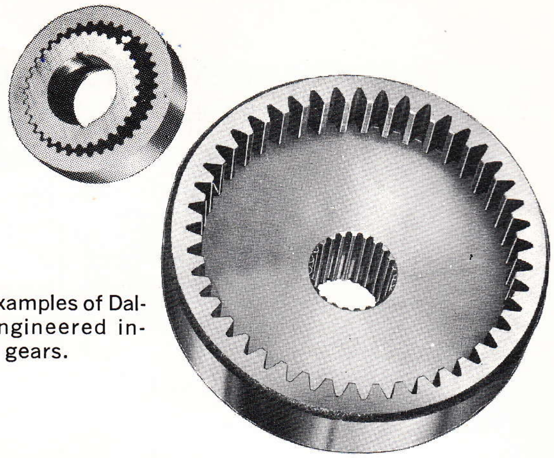
Shaft Rotation is determined by the relative location of the gears. Right hand (clockwise) or left hand (counterclockwise) rotations are determined by viewing the end of the shaft.

WARRANTY

Dalton Gear Co. warrants product to be free from defect in material and workmanship for one year from date of shipment. The company will repair or replace F.O.B. shipping point, any item found to be defective upon inspection at Dalton factory in Mpls, MN within one year from date of shipment. No person, agent, or representative is authorized to give any warranty or make any representation contrary to the foregoing. Under no circumstances will the manufacturer be liable for any loss, damage, expense or consequential damage of any kind arising in connection with the use, inability to use, mis-use or mis-application of Dalton products.

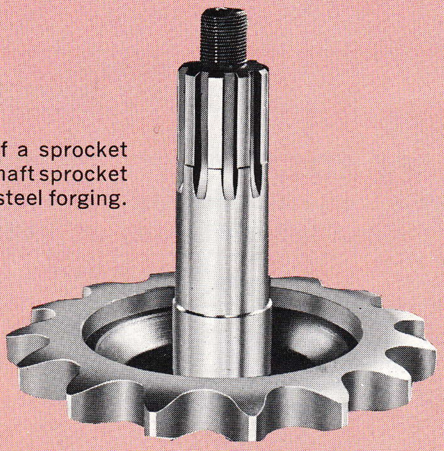
DALTON designs special products to customer specifications

These products are typical of the gears, sprockets, Overload Safety Devices, roller chain couplings, and speed reducers made to customer specifications.

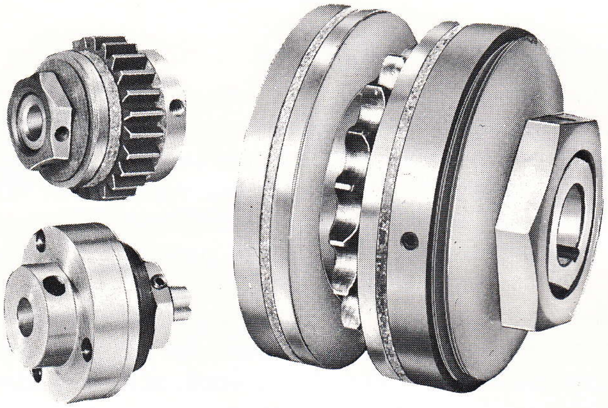


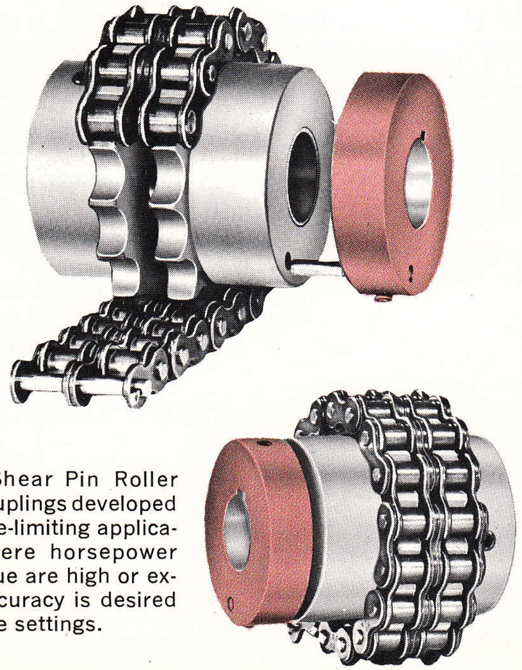
Two examples of Dalton-engineered internal gears.

An example of a sprocket integral with shaft sprocket made of alloy steel forging.

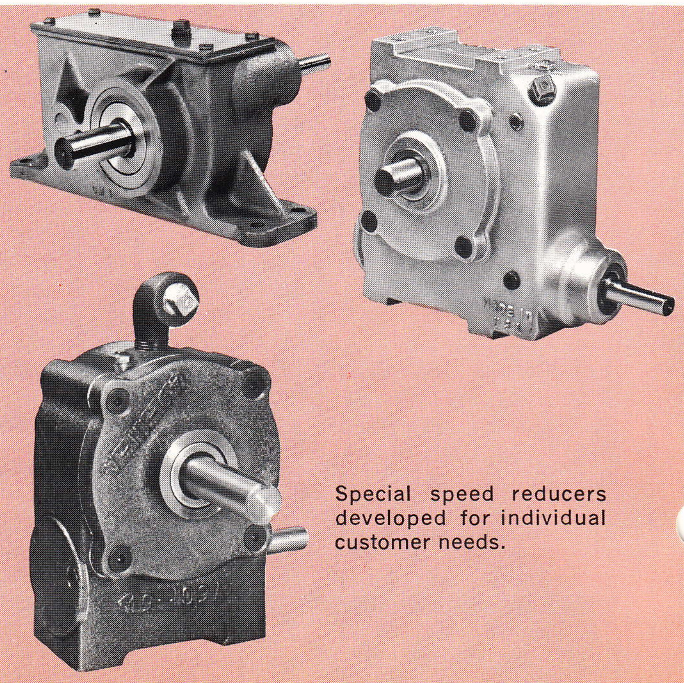


Specially designed Dalton OSD units for particular customer application.





Dalton Shear Pin Roller Chain Couplings developed for torque-limiting applications where horsepower and torque are high or extreme accuracy is desired for torque settings.



Special speed reducers developed for individual customer needs.

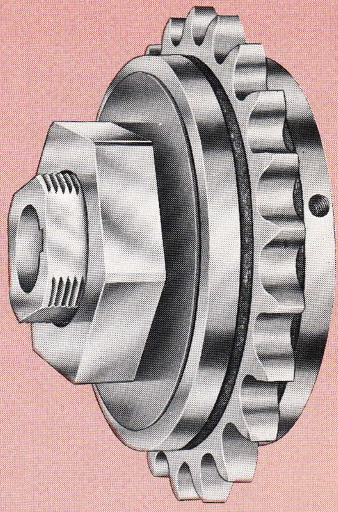
DALTON saves downtime with these OVERLOAD SAFETY DEVICES

Dalton "OSD" units are torque limiters which prevent costly breakdowns when equipment is overloaded by disengaging when a set maximum load is reached. When the overload is eliminated, the units are re-engaged automatically. They are easily adjusted with a torque wrench to the specific torque required.

MODEL OSD* Basic Overload Safety Device

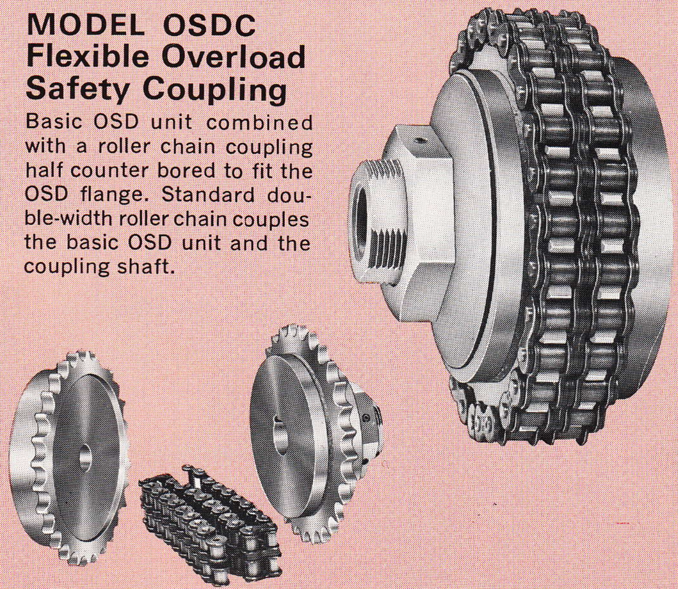
Can be used with a sprocket, gear, belt-pulley, or flange. The clutch facings resist expansion due to moisture. The flanges are high carbon steel forgings, machined accurately for precise operation. The threaded hub and pressure plate are machined square and ground where necessary to position plate and eliminate extra parts.

*Patent No. 3,092,983



MODEL OSDC Flexible Overload Safety Coupling

Basic OSD unit combined with a roller chain coupling half counter bored to fit the OSD flange. Standard double-width roller chain couples the basic OSD unit and the coupling shaft.

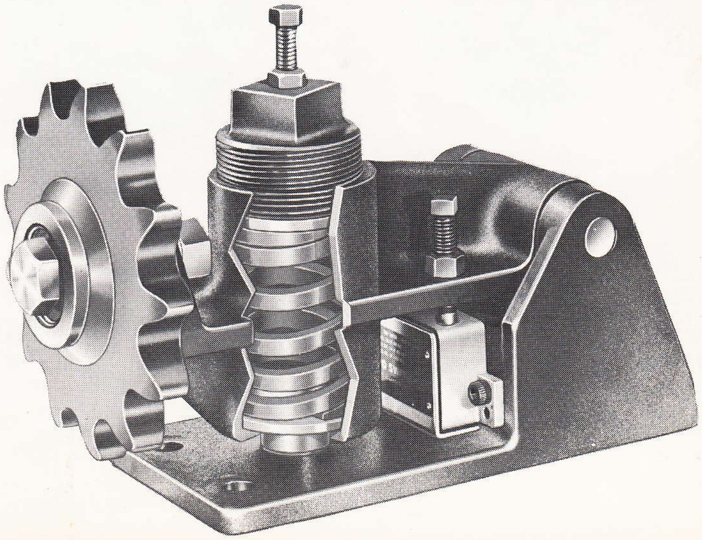


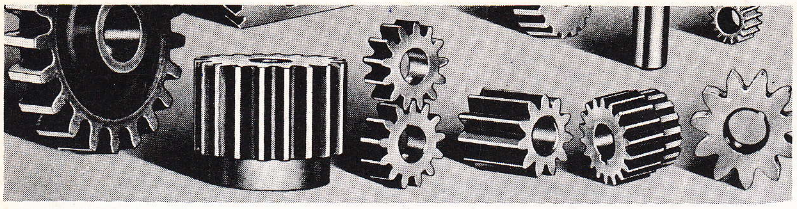
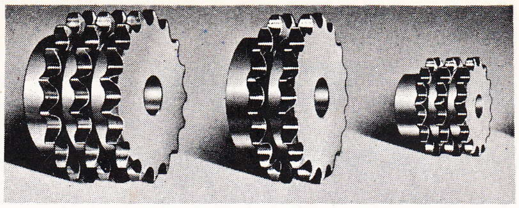
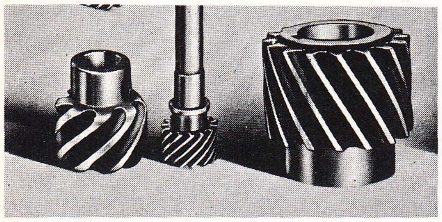
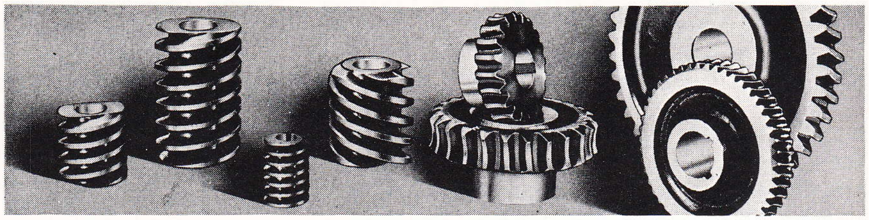
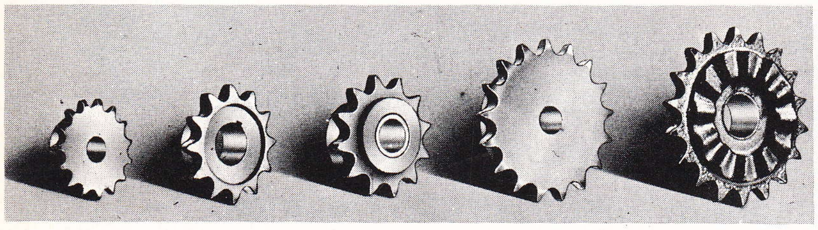
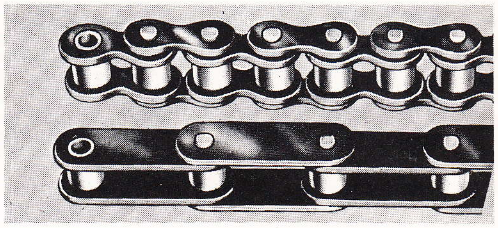
MODEL ROSDC Rigid Overload Safety Device

Basic OSD unit combined with a special coupling half counter bored to fit the OSD flange. Basic unit and coupling half are bolted together to form a rigid mounting.

DALTON SOS
SAFETY OVERLOAD SWITCH

The Dalton SOS Safety Overload Switch reduces downtime and production loss in medium and heavy duty chain driven systems by shutting off power before excessive torque can cause damage to mechanical components. The basic SOS unit is available with a wide choice of sprocket sizes.



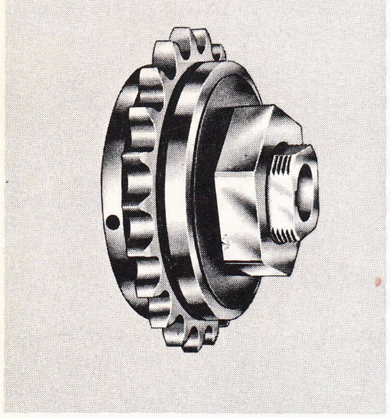







Other quality DALTON *products*

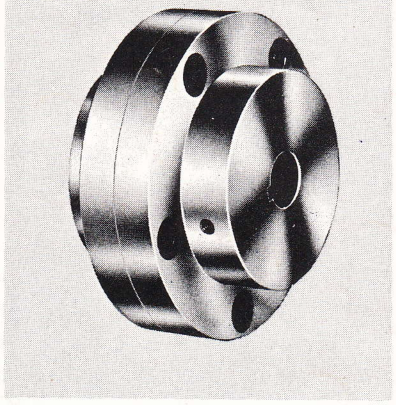
Made with fine precision equipment and inspected to insure rigid adherence to specifications and quality standards.

GEARS All sizes of spur, helical and bevel gears, worms and worm gears, internal gears and splines. SPROCKETS A complete line available for immediate delivery. COUPLINGS TIMING BELT PULLEYS TAPER LOCK SPROCKETS TORQUE LIMITERS SHEAR PIN HUBS AND SPROCKETS ROLLER CHAIN RIGHT ANGLE GEAR BOXES Whatever your needs, you can depend on Dalton for the quality you expect, the delivery you require, and the best possible price.

OSD (torque limiter)



RIGID STEEL COUPLING



The difference at DALTON is attitude . . . we really care!

Dalton engineering and production personnel take real pride in producing quality products that adhere rigidly to specifications. Doing the job **right** the **first time** is the constant objective at Dalton.

DISCOVER THE BIG DALTON DIFFERENCE ! LET US QUOTE ON YOUR REQUIREMENTS.

FEMA

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