

Simple and Direct - No Wasted Gear Motion

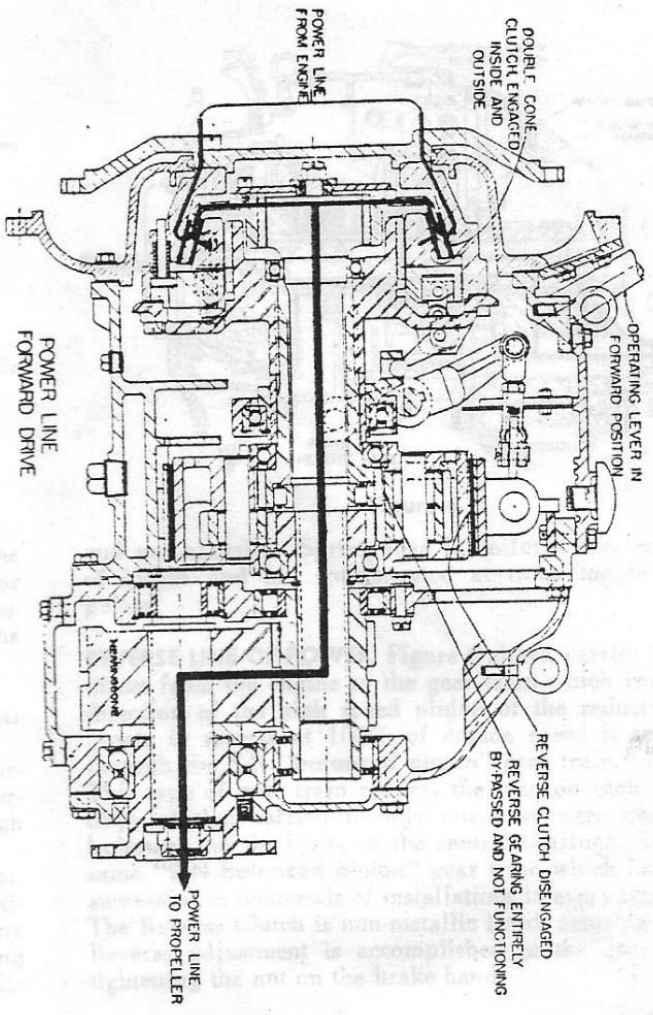


Figure 5

FORWARD LINE OF POWER. Figure 5 above, shows the power transmitted direct from the engine to propeller or reduction gear. There is no unnecessary turning of intermediate gearing. All the masses of the clutch as well as the gear cage act as auxiliary flywheels on the engine.

With Direct Drive, no gearing functions whatsoever. With Reduction Drive, only the reduction pinion and gear carry a load.

NOTE: It is estimated that 90-95% of the drive is in forward direction with most boats. This design does not permit the gearing and bearings to function needlessly through this period.

Our **double cone clutch** is engaged by simple toggles actuated by a ball bearing shifter collar. This clutch has approximately **four** times the torque capacity of a flat disc having same mean diameter. The double cone clutch is **spring** for life. The lining, bonded in place, is non-metallic

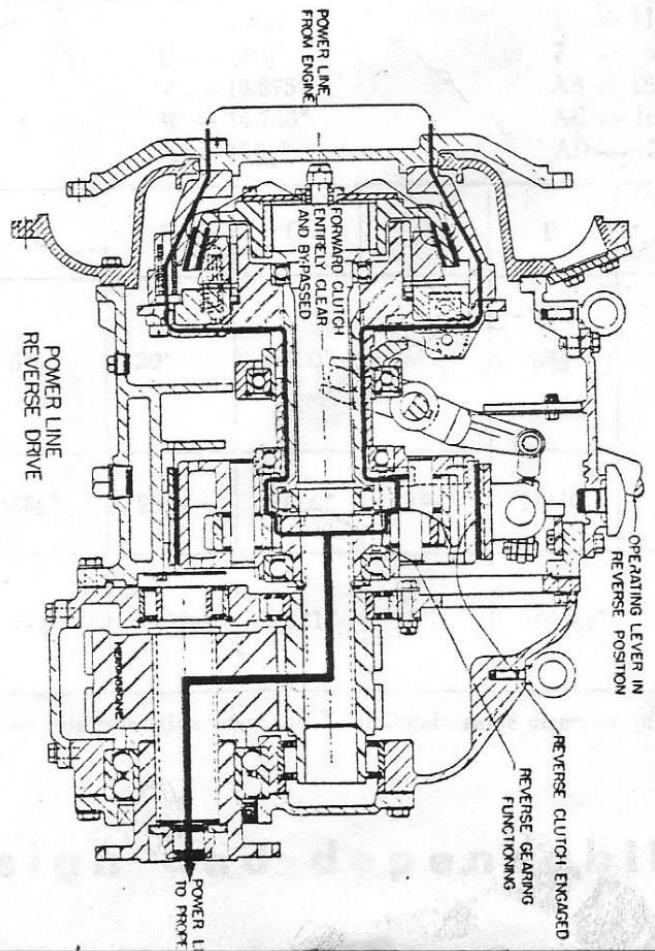


Figure 6

and non-abrasive. Spring load is uniform over entire of clutch and not concentrated at three toggle press points.

REVERSE LINE OF POWER, Figure 6 above, carries the power direct from the engine to the gear train which reverses direction of the high speed pinion of the reduction. Power in reverse at 100% of engine speed is transmitted through the S-N "**balanced pinion**" gear train.

This type of gear train reduces the load on each pinion 33% of that carried if only one gear were used and **balances** out the loads on the central bearings. This is same "**S-N balanced pinion**" gear train which has been

successful in thousands of installations in every type of boat. The Reverse Clutch is non-metallic lined, assuring long life. Reverse adjustment is accomplished in the usual way by tightening the nut on the brake band.

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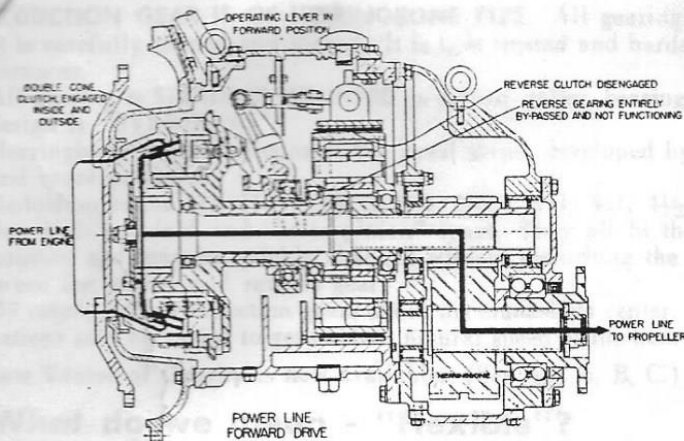


Figure 5

FORWARD LINE OF POWER. Figure 5 above, shows the power transmitted direct from the engine to propeller or reduction gear. There is no unnecessary turning of intermediate gearing. All the masses of the clutch as well as the gear cage act as auxiliary flywheels on the engine.

With Direct Drive, no gearing functions whatsoever.

With Reduction Drive, only the reduction pinion and gear carry a load.

NOTE: It is estimated that 90-95% of the drive is in forward direction with most boats. This design does not permit the gearing and bearings to function needlessly through this period.

Our **double cone clutch** is engaged by simple toggles actuated by a ball bearing shifter collar. This clutch has approximately **four** times the torque capacity of a flat disc having the same mean diameter. The double cone clutch is **spring loaded for life**. The lining, bonded in place, is non-metallic

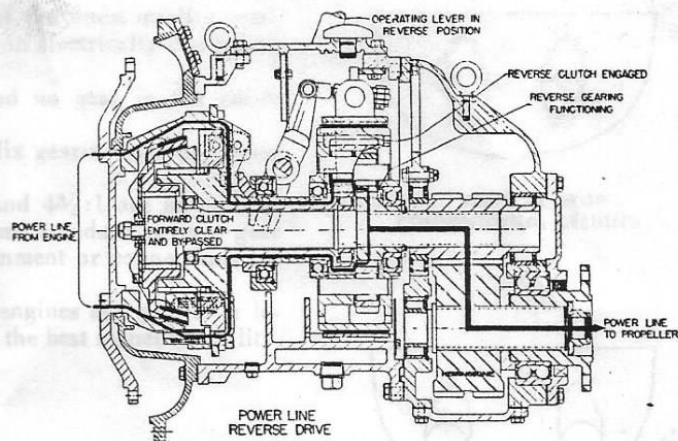


Figure 6

and non-abrasive. Spring load is uniform over entire area of clutch and not concentrated at three toggle pressure points.

REVERSE LINE OF POWER, Figure 6 above, carries the power direct from the engine to the gear train which reverses the direction of the high speed pinion of the reduction. Full power in reverse at 100% of engine speed is transmitted through the S-N "balanced pinion" gear train.

This type of gear train reduces the load on each pinion to 33% of that carried if only one gear were used and it **balances** out the loads on the central bearings. This is the same "S-N balanced pinion" gear train which has been so successful in thousands of installations in every type of boat. The Reverse Clutch is non-metallic lined, assuring long life. Reverse adjustment is accomplished in the usual way by tightening the nut on the brake band.

Dimensions (Inches) See Figures 1, 2, 3, 4.

A — 15 $\frac{3}{4}$ "	F — 92 $\frac{7}{32}$ "	T — 20 $\frac{1}{4}$ "	Y — 11 $\frac{7}{16}$ "
B — 15.000"	G — 6"	U — 9 $\frac{1}{2}$ "	Z — 4 $\frac{17}{32}$ "
C — 14.250"	H — 7 $\frac{3}{4}$ "	V — 13.875"	AA — 15 $\frac{31}{32}$ "
D — 1 $\frac{5}{16}$ "	M — 6 $\frac{7}{16}$ "	W — 14.750"	AC — 16 $\frac{1}{2}$ "
E — 1 $\frac{3}{16}$ "	S — 16"	X — 15 $\frac{5}{8}$ "	AD — 5 $\frac{1}{16}$ "

Reduction Gear Nos.	Ratio	J	K	L	N	O	P	R	AB
2045-00	1.03:1								
2045-1	1.54:1	3.000"	4.750"	5 $\frac{3}{4}$ "	20"	4.500"	8 $\frac{5}{8}$ "	8 $\frac{3}{4}$ "	8 $\frac{9}{16}$ "
2045-3	1.75:1								
2045-5	2:1								
2045-6	2.50:1	3.000"	4.750"	5 $\frac{3}{4}$ "	20"	6.000"	11 $\frac{5}{8}$ "	11 $\frac{17}{32}$ "	8 $\frac{9}{16}$ "
2045-7	3:1								
2045-8	4:1								
2045-9	4.4:1	3.750"	6.000"	7 $\frac{1}{4}$ "	22 $\frac{15}{32}$ "	8.571"	17"	16 $\frac{17}{32}$ "	11 $\frac{3}{32}$ "
2045-10	4.71:1								

Above model numbers designate units turning propeller opposite to engine rotation. To maintain same direction of rotation as the engine add letter "P". (Exs. 2045-00P, 2045-1P.)

ous leadership in design and dependability

REDUCTION GEAR IS OF HERRINGBONE TYPE. All gearing is of the finest quality steel. It is carefully shaped and shaved. It is heat treated and hardened in electrically controlled furnaces.

All gearing is **STRADDLE MOUNTED** in ball or roller bearings and no gear in the entire design is "OVERHUNG".

Herringbone gearing eliminates the usual thrust developed by helix gearing and is quieter and more powerful.

Reduction ratios 1:1, 1½:1, 1¾:1, 2:1, 2½:1, 3:1, 4:1, 4½:1 and 4¾:1 are in production both standard and "Idler pinion" types. They all fit the same standard reverse gear housing and may be quickly changed without disturbing the alignment or connections between the engine and reverse gear.

By rotating these reduction gears about the crankshaft center, the engines and propeller locations may be varied to get the best natural speed of the boat and the best maneuverability.

Low Center of Gravity is now available. (See cuts A, B, C.)

What do we mean - "Flexible"?

In the past it has been necessary to place the engines in line with the propeller as shown in cut A. This has in many cases resulted in:

- (a) A higher center of gravity than desirable.
- (b) A crowded, inconvenient engine room.
- (c) Placing the propellers without regard for the natural speed of the boat—or maneuverability.

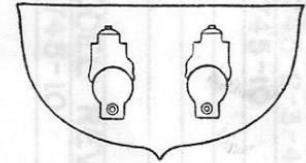
S-N Reduction Gears may be rotated about the center-line of crankshaft, permitting the engines to be lowered in the boat and resulting in a lower center of gravity.

DON'T SET YOUR ENGINE UP ON STILTS

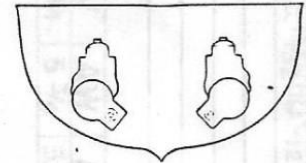
Cut B shows the reduction gears rotated inwardly and the engines spread apart in the hull. Cut C shows the reduction gears rotated outwardly and the engines drawn toward the center of the hull.

Both these arrangements make for:

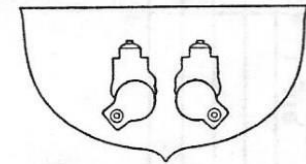
- a. Lower center of gravity.
- b. Better position of engines in engine room.
- c. Better position of propellers for maneuvering.



A. VERTICAL DROP CONVENTIONAL DESIGN



B. ENGINES APART S-N SPECIAL FEATURE



C. ENGINES TOGETHER S-N SPECIAL FEATURE

HOW TO ORDER

We must know the following:

- | | |
|--|---|
| 1. Is engine Diesel or Gasoline? | 6. Number of your Standard SAE Housing? |
| 2. Two or four cycle? | 7. Will you pressure lubricate from engine? |
| 3. Horse Power? Speed? | 8. Or lubricate by splash system? |
| 4. Drive through flywheel? | 9. Do you require reduction gear? |
| 5. Or drive from opposite end of engine? | 10. What reduction ration do you desire? |

We expect a deposit of 25% of the purchase price with the order. Shipment will be made C.O.D. for the balance. All our prices are F.O.B. New Haven, Conn.

Be sure to give us as complete a description of the engine as you can so that we may check its power and characteristics and choose the best gear in our line to meet your needs.

When ordering parts be sure to give model and serial number of gear.

Warranty

The Company's products are guaranteed to be made of first class material, and in a skillful and workmanlike manner, and to be in perfect running order at the time they leave the factory. They are additionally guaranteed against any defective material or workmanship, and any part proven defective within one year from date of shipment will be replaced free of charge, F.O.B. New Haven, Conn., on return of such defective part to the Company, transportation charges prepaid. No parts, however, shall be returned without the express authority of this Company so to do.

The Company shall in no event be held liable for consequential damages or delays caused by defective material and no allowance will be made for repairs or alterations, unless made by its written consent or approval. Equipment and accessories, including bearings, not manufactured by the Company are guaranteed only to the extent of the original manufacturer's guarantee.

N.B. Fully covered by U. S. A. and Foreign Patents.

MAKERS OF S-N AND JOES FAMOUS GEARS

PRINTED IN U. S. A.



THE SNOW-NABSTEDT GEAR CORP.

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New Haven, Connecticut, U. S. A.

