



## SELECTION & INSTALLATION GUIDE

REV: A 05 JUNE 2008

### TYPE R - REMOTE MOUNT - AUXILIARY

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**INTELLISTEER TYPE R - REMOTE MOUNT - AUXILIARY**  
SELECTION & INSTALLATION GUIDE (continued)

A1. SYSTEM OVERVIEW:

1. The Intellisteer Type R Remote Steering Control has 2 distinct applications. It is versatile, easy and economical to install. The drive unit is powerful and fast - capable of delivering over 300lbs of cable thrust, with a normal H.O. to H.O. time of 15 seconds. The multiple (hand held or fixed) control units can be located for maximum convenience
  - a. Auxiliary Engine (kicker) Steering: Intellisteer Type R provides an independent steering system for auxiliary (kicker) engines on most types of powerboats and sailboats.
  - b. Primary Steering (Outboard – Sterndrive – Inboard): Intellisteer Type R provides an independent steering system on most types of smaller powerboats steered with mechanical push pull cable steering systems (except those fitted with NFB type helms), small inboards and sailboats with access to a quadrant or tiller. See Selection & Installation Guide – INTELLISTEER TYPE R – REMOTE MOUNT – PRIMARY for more detailed information on this application.
2. The Type R drive unit can be installed in any convenient location and requires the addition of a second steering cable and connection kit. The drive incorporates a drive motor and solenoid clutch and is based on the MORSE 290 rotary helm unit and accepts MORSE 304415 steering cables and Teleflex SSC52 steering cables without modification. Simple cable adapters are available to enable connection to other popular steering cables. On tiller handle equipped engines, the helmsman can also hand steer, because only the Intellisteer steering cable is back driven due to the clutch.

A2. PRODUCT LIMITATION:

The Intellisteer remote drive will fit a large number of vessels, which were just difficult or economically not practical to fit remote steering control to before. The product does have some limitations, which must be observed, please note the following:

1. The Intellisteer remote drive unit is designed around the MORSE 290 Rotary Helm manufactured by TFX-Morse Controls of Limerick Pennsylvania, USA. To meet A.B.Y.C. regulations, this type of steering is recommended for use on vessels with a maximum speed of 40 m.p.h. The Intellisteer helm drive should not be fitted to vessels, which exceed this speed.
2. The Intellisteer remote drive unit should not be fitted to boats where the maximum horsepower of the engines exceeds the maximum horsepower rating for the vessel as stated on the vessel manufacturers tag.
3. The Intellisteer remote drive is designed to produce a maximum cable push/pull of 300lbs, which requires a peak power of 60 watts. This makes the unit very capable of handling the vast majority of auxiliary engines and cable steered vessels. However some vessels fitted with push pull cable steering systems have very stiff steering or steering which is heavily loaded in one direction due to hull design and engine considerations. Generally speaking, the Intellisteer remote drive will steer vessels that do not require more than a 15-lb force on the rim of a 14-inch diameter steering wheel to hold a course, this equals 105 in/pounds of torque. If the steering wheel input torque exceeds this figure, the Intellisteer remote drive is not a satisfactory drive system and we would suggest that the vessel be fitted with a hydraulic linear actuator drive system such as our Intellisteer Hydraulic which is capable of steering at much higher power.

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A3. 4 – STEP INSTALLATION PLANNING:

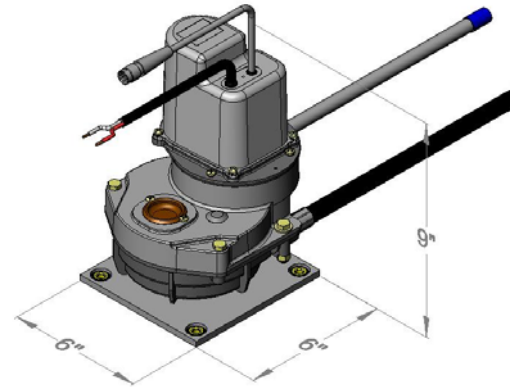
When planning an installation, it is recommended that you follow 4 steps:

- STEP 1: Ensure that there is adequate space available to accommodate the drive unit.
- STEP 2: Determine the type of cable connection kit required. (See application tables).
- STEP 3: Determine the routing and length of second steering cable required.
- STEP 4: System & Accessories Selection Review.

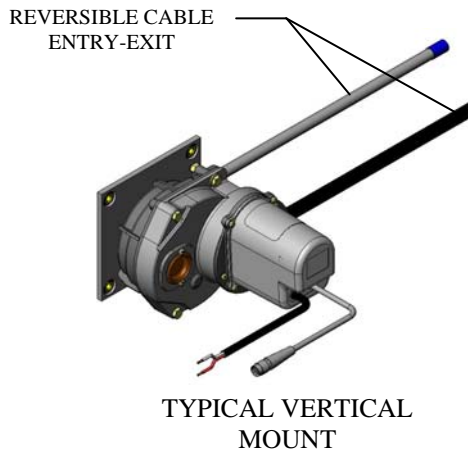
B1. STEP 1 – Determine Available Space

**B1a. Remote Drive Physical Envelope**

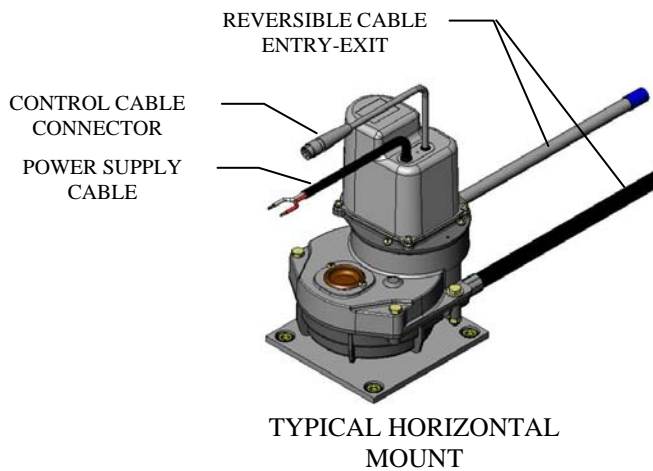
1. The selected installation site should provide adequate space to accommodate the drive envelope including the entry and exit points for the steering cable. The drive can be mounted at any angle. See detailed graphics of drive envelope and mounting samples below. Note that no access for maintenance purposes is required.
2. The selection of the steering cable entry/exit port DOES have a preference (as shown in graphics below). To provide more flexibility for routing the steering cable, the preferred port arrangement can be reversed. If ports are reversed, a crossover control cable assembly (part # OC15SUK21) MUST be inserted between the hand held control unit connector and the drive unit control cable connector.



DRIVE ENVELOPE



TYPICAL VERTICAL MOUNT



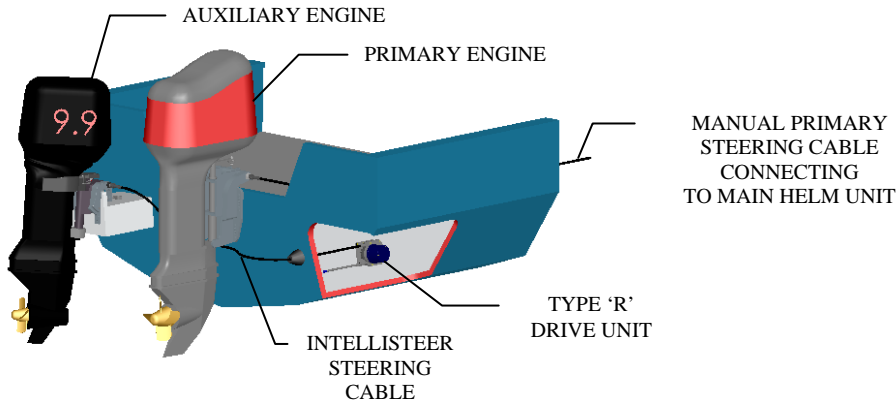
TYPICAL HORIZONTAL MOUNT

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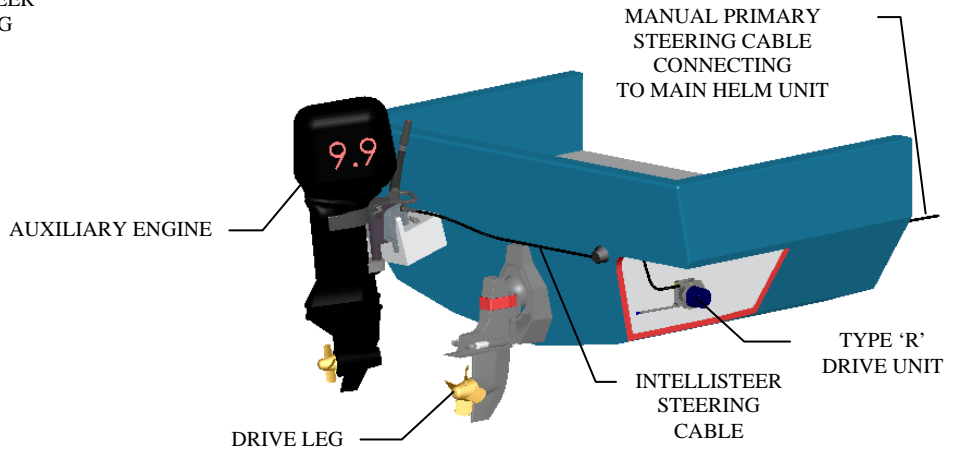
**INTELLISTEER TYPE R - REMOTE MOUNT - AUXILIARY**  
 SELECTION & INSTALLATION GUIDE (continued)

C1. STEP 2 – Determine Cable connection kit required

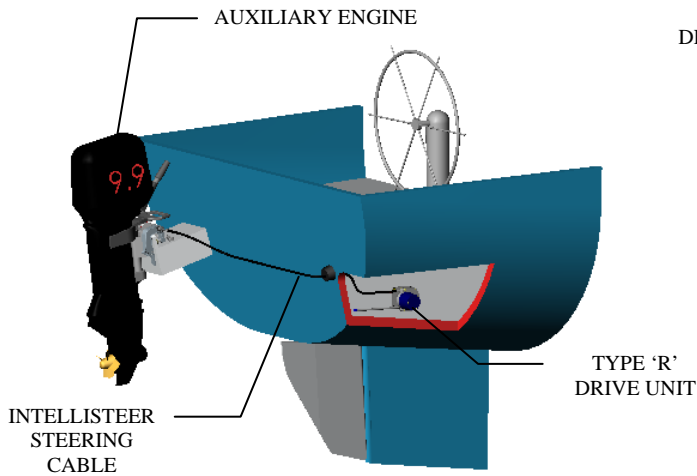
1. The auxiliary engine manufactures offer remote steering connection kits for most of their engines. In addition Intellisteer offers connection kits for the most popular engines. See the attached application chart for details. Note if a port or starboard cable entry is required. Typical auxiliary engine arrangements are shown in graphics below.



TYPICAL OUTBOARD INSTALLATION



TYPICAL STERNDRIVE INSTALLATION



TYPICAL SAILBOAT INSTALLATION

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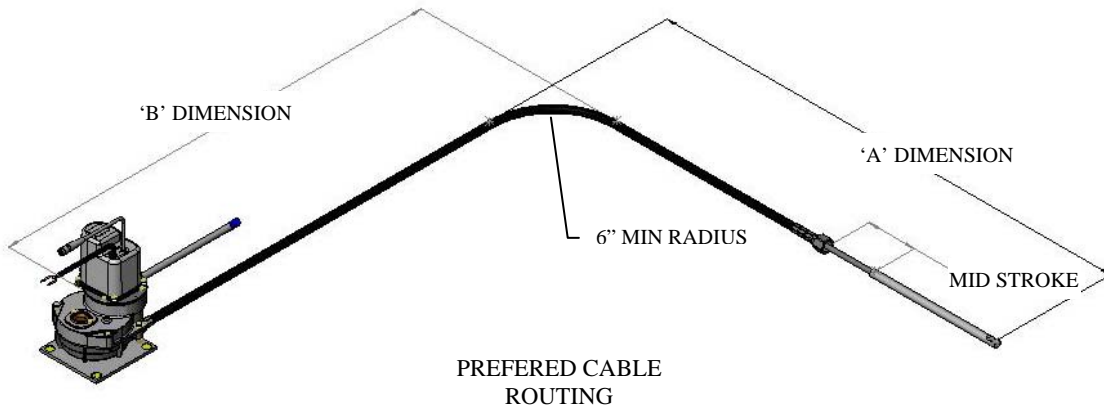
## INTELLISTEER TYPE R - REMOTE MOUNT - AUXILIARY

### SELECTION & INSTALLATION GUIDE (continued)

D1. STEP 3 – Determine the routing and length of Intellisteer Steering cable required

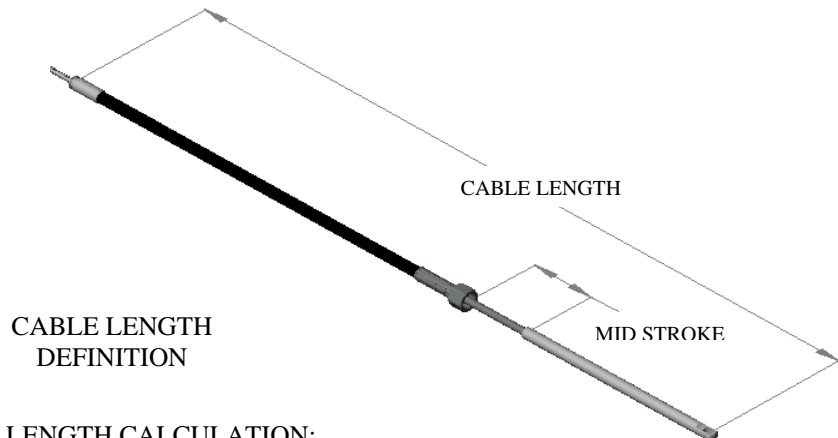
#### D1a. Cable Routing

1. After selection of the Cable Connection Kit and the physical location of the type 'R' drive unit, the routing of the Intellisteer Steering Cable must be determined. A penetration of the transom will probably be required.
2. The cable routing should take into consideration the extreme movements of the outboard and auxiliary engines. Care should be taken to maximize the bend radius and to minimize the total number of bends. It is recommended that bends are no smaller than the minimum bend radius (6") and that the total angle of all bends combined be minimized and no larger than 270 degrees. See detailed graphic showing preferred routing and bend definition.



#### D1b. Cable Length Calculation

1. When the Steering Cable Routing has been determined, the required cable length can be measured.
2. Use a length of rope or electrical cable to simulate the routing, then measure the total length required. See graphic of cable length definition.



EXAMPLE OF STEERING CABLE LENGTH CALCULATION:

Add 'A' + 'B' dimensions and subtract 4" for a 90 degree bend. Round UP result to nearest full foot size.

For steering cable x length in feet order OC15109-XX

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E1. STEP 4 – Accessory Selection Review

There are 2 types of accessory to be considered.

ACCESSORY A – GENERAL:

- a. Additional Hand Held Control Unit – To provide additional helm stations in convenient locations, maximum 3 stations. Available with flex cable or hard wire cable x 15 feet long and comes complete with “Y” cable adapter.

For Flex Cable Control Unit	order OC15SUK13A
For Fixed Cable Control Unit	order OC15SUK13B



- b. Control Cable Extension x 15’ – To provide increased flexibility for convenient control cable routing. Each Cable Extension comes complete with waterproof and foolproof self locking cable connectors.

For Control Cable Extension x 15’ order OC15SUK20

- c. Crossover Control Cable – To provide increased flexibility for convenient steering cable routing. Crossover Cable reverses direction input signals to drive unit to compensate for reversed connection of steering cable.

For Crossover Control Cable order OC15SUK21

ACCESSORY B – STEERING CABLE ADAPTERS:

- a. Steering Cable Adapter – Needed when using a steering cable designed for other helm types

For TFX SSC62 steering cable	order OC15SUK08
For TFX SSC61 steering cable	order OC15SUK08
For TFX SSC72 steering cable	order OC15SUK07
For Morse 304415 steering cable	order OC15SUK07
For Uflex M47 steering cable	order OC15SUK07

**INTELLISTEER TYPE R - REMOTE MOUNT - AUXILIARY**

SELECTION & INSTALLATION GUIDE (continued)

F1. System & Accessory Checklists

<b>CHECKLIST 2</b>			
<b>AUXILIARY STEERING SYSTEM</b>			
<b>DESCRIPTION</b>		<b>PART NUMBER</b>	<b>ORDER</b>
<b>MANDATORY SELECTIONS FOR BASIC SYSTEM</b>		basic drive unit kit (includes 1 hand control unit)	OCTAFINTRA (type 'R') ✓
		engine connection kit	engine specific see application charts 1 thru 5
		steering cable	OC15109-XX (length calculated from routing path)
<b>OPTIONAL ACCESSORY SELECTIONS</b>	<b>CONTROL CABLE OPTIONS</b>	flex hand control unit fixed hand control unit control cable extension 15' crossover control cable	OC15SUK13A OC15SUK13B OC15SUK20 OC15SUK21
	<b>STEERING CABLE OPTIONS</b>	adaptor for TFX SSC61 adaptor for TFX SSC62 adaptor for TFX SSC72 adaptor for MORSE 304415 adaptor for UFLEX M47	OC15SUK08 OC15SUK08 OC15SUK07 OC15SUK07 OC15SUK07

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SELECTION & INSTALLATION GUIDE (continued)

G1. Auxiliary Application Chart – Mercury – Mariner - Force

CHART 1										
COMMON AUXILIARY ENGINE CONNECTION KITS										
MERCURY - MARINER - FORCE										
MODEL		BRAND			YEAR RANGE	COUNTRY OF MANF	SERIAL NUMBER RANGE	LINK ROD ATTACH KIT		ADDITIONAL STEERING BRACKET
HP	STROKE	MERCURY	MARINER	FORCE				STARBOARD CABLE ENTRY	PORT CABLE ENTRY	
6	2	x	x		1986 & up	USA	0A197112 and up	OC15SUK30A	OC15SUK30B	n/a
6	2	x	x		1986 & up	BEL	9461526 and up	OC15SUK30A	OC15SUK30B	n/a
8	2	x	x		1986 & up	USA	0A197112 and up	OC15SUK30A	OC15SUK30B	n/a
8	2	x	x		1986 & up	BEL	9461526 and up	OC15SUK30A	OC15SUK30B	n/a
8	4	x	x		1995-1999½	USA	0H000058-OH017349	OC15SUK30A	OC15SUK30B	n/a
8	4	x	x		1999½ & up	USA	OG760300 and up	OC15SUK30A	OC15SUK30B	n/a
9.9	2	x	x		1986 & up	USA	0A197112 and up	OC15SUK30A	OC15SUK30B	n/a
9.9	2	x	x		1986 & up	BEL	9461526 and up	OC15SUK30A	OC15SUK30B	n/a
9.9	4	x	x		1995-1998	USA	0H000058-OH016909	OC15SUK30A	OC15SUK30B	n/a
9.9	4	x	x		1999 & up	USA	OG760300 and up	OC15SUK31A	OC15SUK31B	n/a
9.9	2			x	ALL	USA	ALL	OC15SUK32A	n/a	OC15SUK36
15	2			x	ALL	USA	ALL	OC15SUK32A	n/a	OC15SUK36
15	2	x	x		1988 & up	USA	0B292414 and up	OC15SUK30A	OC15SUK30B	n/a
15	2	x	x		1988 & up	BEL	9542620 and up	OC15SUK30A	OC15SUK30B	n/a
15	4	x	x		1998 & up	USA	0G590000 and up	OC15SUK31A	OC15SUK31B	n/a
18	2	x	x		1984 & up	USA	6443973 and up	OC15SUK31A	OC15SUK31B	n/a
18	2	x	x		1984 & up	BEL	9378151 and up	OC15SUK31A	OC15SUK31B	n/a
18	2	x	x		1984 & up	CAN	7209533 and up	OC15SUK31A	OC15SUK31B	n/a
20	2		x		ALL **	n/a	model 20C and up	OC15SUK33A	n/a	n/a
20	2	x	x		1984 & up	USA	6443973 and up	OC15SUK31A	OC15SUK31B	n/a
20	2	x	x		1984 & up	BEL	9378151 and up	OC15SUK31A	OC15SUK31B	n/a
20	2	x	x		1984 & up	CAN	7209533 and up	OC15SUK31A	OC15SUK31B	n/a
20	2			x	1978-2001	USA	ALL	OC15SUK34A	n/a	n/a
25	2		x		ALL **	n/a	model 25C and up	OC15SUK33A	n/a	n/a
25	2	x	x		1984 & up	USA	6443973 and up	OC15SUK31A	OC15SUK31B	n/a
25	2	x	x		1984 & up	BEL	9415101 and up	OC15SUK31A	OC15SUK31B	n/a
25	2	x	x		1984 & up	CAN	7209533 and up	OC15SUK31A	OC15SUK31B	n/a
25	2			x	1996 & up	USA	OE127700 and up	OC15SUK32A	n/a	OC15SUK37
25	4	x	x		1998 & up *	USA	OG590000 and up	OC15SUK35A	OC15SUK35B	OC15SUK38

Notes : \* Only manual start models require additional steering bracket  
 \*\* Japanese origin with tilt tube steering

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G2. Auxiliary Application Chart – Yamaha

CHART 2								
COMMON AUXILIARY ENGINE CONNECTION KITS								
YAMAHA								
MODEL		BRAND	YEAR RANGE	COUNTRY OF MANUFACTURE	SERIAL NUMBER	LINK ROD ATTACH KIT		ADDITIONAL STEERING BRACKET
HP	STROKE	YAMAHA				STARBOARD CABLE ENTRY	PORT CABLE ENTRY	
2	2 (1 cyl)	x	ALL	n/a	n/a	??	n/a	??
F4*	4 (1 cyl)	x	ALL	n/a	n/a	n/a	n/a	n/a
3	2 (1 cyl)	x	ALL	n/a	n/a	??	n/a	??
5	2 (1 cyl)	x	ALL	n/a	n/a	??	n/a	??
F6*	4 (2 cyl)	x	ALL	n/a	n/a	n/a	n/a	n/a
8	2 (2 cyl)	x	ALL	n/a	n/a	OC15SUK50A	n/a	n/a
F8*	4 (2 cyl)	x	ALL	n/a	n/a	n/a	n/a	n/a
T8**	4 (2 cyl)	x	??	n/a	n/a	??	n/a	??
9.9	2 (2 cyl)	x	1995 & up	n/a	n/a	OC15SUK51A	n/a	OC15SUK58
F9.9*	4 (2 cyl)	x	1983 & up	n/a	n/a	OC15SUK52A	n/a	n/a
T9.9**	4 (2 cyl)	x	1983 & up	n/a	n/a	OC15SUK52A	n/a	n/a
15	2 (2 cyl)	x	1995 & up	n/a	n/a	OC15SUK51A	n/a	OC15SUK58
F15*	4 (2 cyl)	x	1998 & up	n/a	n/a	OC15SUK51A	n/a	n/a
25	2 (2 cyl)	x	ALL	n/a	n/a	OC15SUK53A	n/a	n/a
25	2 (3 cyl)	x	ALL	n/a	n/a	OC15SUK53A	n/a	n/a
F25*	4 (2 cyl)	x	??	n/a	n/a	OC15SUK54A	n/a	n/a
T25**	4 (2 cyl)	x	??	n/a	n/a	??	n/a	??
30	2 (3 cyl)	x	ALL	n/a	n/a	OC15SUK53A	n/a	n/a
F30*	4 (3 cyl)	x	ALL	n/a	n/a	OC15SUK53A	n/a	n/a
40	2 (3 cyl)	x	ALL	n/a	n/a	OC15SUK54A	n/a	n/a
F40*	4 (3 cyl)	x	ALL	n/a	n/a	OC15SUK54A	n/a	n/a
C40	2 (3 cyl)	x	ALL	n/a	n/a	OC15SUK54A	n/a	n/a
50	2 (3 cyl)	x	ALL	n/a	n/a	OC15SUK54A	n/a	n/a
F50*	4 (4 cyl)	x	ALL	n/a	n/a	OC15SUK54A	n/a	n/a
T50**	4 (4 cyl)	x	??	n/a	n/a	OC15SUK54A	n/a	n/a
Notes :	* 'F' Denotes 4 Stroke Model							
	** 'T' Denotes High Thrust Model							

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