

WARNING

(Please note the following statements from FAA Advisory Circular 20-62C entitled "ELIGIBILITY, QUALITY, AND IDENTIFICATION OF APPROVED REPLACEMENT PARTS"):

3. **BACKGROUND.** An increasing amount of replacement parts (including standard parts), materials, appliances, and instruments are offered for sale as being of aircraft quality when actually the quality and origin of these units are unknown. Users of such units are usually not aware of the potential hazards involved with replacement parts that are not eligible for use on certificated aircraft. Frequently such units are deceptively advertised or presented as "unused," "like new," or "remanufactured." This implies that the quality of such units is equal to an original or appropriately repaired or overhauled unit.

The performance rules for replacement of parts and materials used in the maintenance and alteration of U.S. certificated aircraft are specified in Federal Aviation Regulations (FAR) 43.13 and FAR 145.57. The responsibility for the continued airworthiness of the aircraft, which includes the replacement of parts, is the responsibility of the owner/operator as outlined in FAR 91.163, FAR 121.363, FAR 123.45, FAR 127.131 and FAR 135.143(a).

4. **IDENTIFICATION OF THE APPROVED PARTS.** Approved serviceable replacement parts are identified as follows:

- a. By an FAA Form 8130-3 (Formerly FAA Form 186), Airworthiness Approval Tag. An Airworthiness Approval Tag identifies a part or group of parts that have been approved by authorized FAA representatives.
- b. By an FAA Technical Standard Order (TSO) number and identification mark that indicates the part or appliance has been manufactured under the requirements of FAR 37.
- c. By an FAA/PMA symbol, together with the manufacturer's name, trademark or symbol, part number, and the make and model of the type certificated product on which the part is eligible for installation, stamped on the part. An FAA Parts Manufacturer Approval (FAA/PMA) is issued under FAR 21.305. The make and model information may be on a tag attached to the part.
- d. By shipping ticket, invoice, or other document which provides evidence that the part was produced by a manufacturer holding an FAA Approved Production Inspection System issued under FAR 21, Subpart F, or by a manufacturer holding an FAA Production Certificate issued under FAR 21, Subpart G.
- e. By a certificate of airworthiness for export issued by a foreign government under the provisions of FAR 21, Subpart N.

11. **KNOW YOUR SUPPLIER.** It has come to our attention that many reproduced parts and components, particularly instruments which have been manufactured by persons other than the original manufacturer, are available for purchase and installation on U.S. certificated aircraft. Often, an original part is used as a sample to produce duplicates. The reproduced parts appear to be as good as the original part; however, there are many unknown factors to be considered that may not be readily apparent to the purchaser, i.e., heat treating, plating, inspections, tests and calibrations. All too often the faulty part is not discovered until a malfunction or an accident occurs.

12. **SUMMARY.** In accordance with FAR's, certification of materials, parts, and appliances for return to service, for use on aircraft, is the responsibility of the person or agency who signs the approval. The owner/operator, as denoted in paragraph 3 of this advisory circular, is responsible for the continued airworthiness of the aircraft. To assure continued safety in aircraft operation, it is essential that great care be used when inspecting, testing, and determining the acceptability of all parts and materials. Particular caution should be exercised when the identity of materials, parts, and appliances cannot be established or when their origin is in doubt.

System Support Manual

IGNITION/STARTER SWITCHES AND DOOR LOCK KITS

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Ignition Switch Leading Particulars

Contacts	Rated to handle magneto primary voltage and/or 24 volts DC, 5 amps
Insulation Test	1,000 volts DC to ground. Use 11-8950-2 High Tension Lead Tester Kit.
Lever Type Switch	Has removable lever to facilitate mounting
Key Type Switch	Has disc tumbler lock with removable key. Available with matching door locks.
Corrosion Resistance	50 hr salt test per Fed. Spec. QQ-M-151-A
Lubrication	Cramolin Paste Type 20Kd
Mounting	Adjustable for panel thickness to .312 in.
Position Indicating Dial	Available as desired
Weight	7 oz.
Housing	Die cast

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IGNITION/STARTER SWITCHES AND DOOR LOCK KITS

INTRODUCTION

GENERAL

- A. This manual provides complete maintenance instructions with illustrated parts list for Ignition/Starter Switches and Door Lock Kits, manufactured by Teledyne Continental Motors, Aircraft Products, Mobile, Alabama 36601. TCM Ignition Switches control magneto operation. Many switches also include controls for starting and electric primer circuits. Door locks are used to secure cabin doors and/or baggage compartment doors. Switch and door lock kits incorporate matching lock mechanisms and are operated by a single key for maximum convenience.
- B. This manual is subdivided with sub-heads as listed in the Table of Contents. Revision service may be provided by ordering Master Service Manual Form X40000. TCM Ignition Systems Service Bulletins included in Master Service Manual provide current information related to service, maintenance and technical support of the product. Service Bulletins 583 and 615 have been incorporated into this manual. This manual may be included in Chapter 74-30 of applicable GAMA format publications.
- C. These instructions do not cover all details or variations in equipment nor do they provide for every possible contingency to be met in connection with installation, operation, or maintenance. Should further information be desired or particular problems arise which are not covered sufficiently for purchaser's purpose, contact

your local TCM distributor or TCM field representative. Requests for copies of Teledyne Continental Aircraft Engine Service publications should be made through your distributor or Teledyne Continental Motors, P. O. Box 90, Mobile, AL 36601, Attn: Publications Department.

- D. Good standard shop practices and safety precautions should be observed at all times to avoid damage to equipment and or injury to personnel.
- E. All maintenance instructions in this manual have been shop verified. Shop verified procedures are those by which the manufacturer has accomplished all Disassembly, Assembly, Testing and Fault Isolation by performing the functions described in this manual on equipment identical in configuration to that described.
- F. Dimensions are given in Standard Units. For reference, abbreviations used are listed in Table 1.
- G. Numbers in parentheses following part nomenclature refer to item numbers in illustrated Parts List Figure 1 and 2 unless otherwise specified. Example: (1-5) is item 5 in IPL Figure 1; (2-1) is item 1 in IPL Figure 2.

Recommendations, cautions and warnings regarding maintenance of this equipment are not intended to impose undue restrictions. They are inserted to obtain maximum performance from the equipment in accordance with safety and efficiency. Abuse, misuse, or neglect of any piece of equipment can cause eventual failure. For an aircraft engine it is obvious that a failure may have disastrous consequences. Failure to observe the instructions contained in this manual constitutes unauthorized operation in areas unexplored during development of the engine, or in areas in which experience has proved to be undesirable or detrimental.

NOTES, CAUTIONS and WARNINGS are included throughout this manual. Application is as follows:

NOTE. . . Special interest information which may facilitate the operation of equipment.

CAUTION. . . Information issued to emphasize certain instructions or to prevent possible damage to engine or accessories.

WARNING. . . Information which, if disregarded, may result in severe damage to or destruction of the engine or endangerment to personnel.

Table 1
Abbreviations

US Standard Unit	Abbreviation
Degrees Fahrenheit	°F
Inch	in.
Pound Inches	lb in.
Pound Force	lbf
Pound (Mass)	
Pounds per Hour	pph
Pounds per Square Inch, Absolute	psia
Pounds per Square Inch Gage	psig
Feet	ft
Gallons	gal
Ounces	oz

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IGNITION/STARTER SWITCHES AND DOOR LOCK KITS

- D. Ignition switch placard indicator dials are available for each type of switch.
- E. Door locks are supplied in kits as listed in Illustrated Parts List. Door locks supplied with key-actuated switches are actuated by the same key. Door locks listed in Illustrated Parts List are also available separately and, when purchased this way, will have their own key. If a door lock or switch becomes damaged, a new one may be purchased separately.

MAINTENANCE RECOMMENDATIONS

- A. Ignition switch maintenance is conducted on an on-condition basis. Whenever access allows, components should be inspected for positive operation, wear, binding, looseness or burning. Replace components as necessary.
- B. For key operated switches, due to the danger of removing the key from the switch in other than the "OFF" position, switch locks (1-20) utilizing keys marked with PK number code listed in Table 2 marked as shown in Figure 3 should be removed and replaced at customer's earliest convenience. If key is not marked with PK number code, refer to outside face of any matching door locks.

Table 2

KEY PK NUMBER CODES	
PK-502, 503, 504, 506, 507, 511, 512, 513, 523, 524, 525, 528, 530, 532, 533, 536, 537, 539, 544, 551, 553, 563, 565, 572, 573	
PK-605, 606, 613, 616, 617, 618, 627, 639, 641, 642, 643, 646, 648, 650, 653, 657, 660, 667, 682	
PK-722, 729, 731, 734, 735, 736, 738, 743, 744, 745, 755, 756, 758, 760, 763, 765, 766, 767, 773, 774, 777, 784, 786, 798	
PK-800, 805, 807, 814, 846, 848, 850, 852, 853, 855, 860, 862, 869, 872, 873, 876, 880, 881, 882, 884, 887, 889, 890, 891, 894	
PK-901, 914, 916, 921, 922, 923, 930, 956, 963, 966, 967, 968, 970, 971, 978, 985, 990, 992, 996, 997, 999	

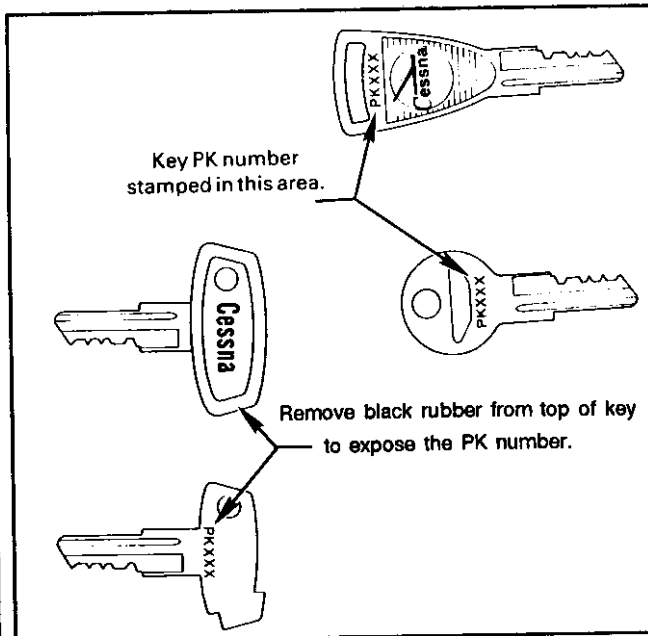


Figure 3. PK Number Location

- C. For all switches with start position, to ensure positive grounding of magnetos when in "OFF" position, old support (1-2) should be replaced with current design support (1-2) at customer's earliest convenience. Current design support includes oversize rivet head as shown in Figure 4. Current support (1-2) is identified with white paint mark on terminal lug side of support.

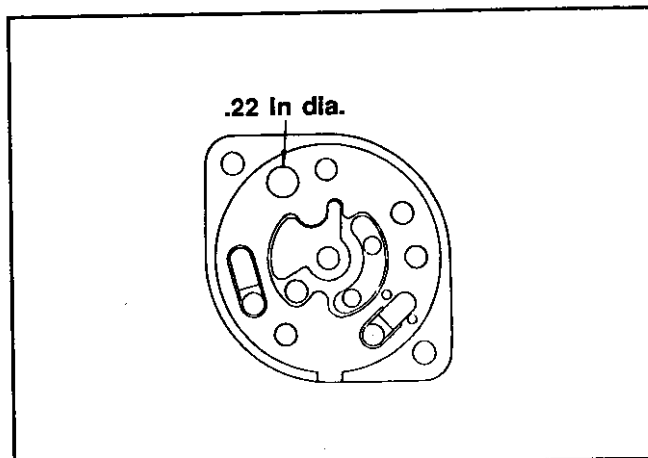


Figure 4. Current Support (1-2) Ignition/Starter Switches

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IGNITION/STARTER SWITCHES AND DOOR LOCK KITS

DESCRIPTION AND OPERATION

GENERAL

A. Ignition switches manufactured by Teledyne Continental Motors, Aircraft Products, Mobile, Alabama 36601 are designed to provide control of magneto operation. Optional starter solenoid control, electrical primer control, and key or lever designs are available as shown in Figure 1.

B. The various switch position functions are listed below*.

OFF Both magnetos inoperative

R Right magneto operating
Left magneto inoperative

L Left Magneto operating
Right magneto inoperative

BOTH Both magnetos operative

START Battery terminal connected to starter solenoid through start terminal. Right magneto may be grounded with jumper between right terminals. Left magneto main and retard contacts may be connected to starting vibrator output. Spring return to both position.

PUSHTOPRIME Allows aircraft to be electrically primed either in BOTH or START position. Spring loaded to normally open circuit position.

C. Typical ignition switch mounting dimensions are shown in Figure 2. Dimensions are in inches.

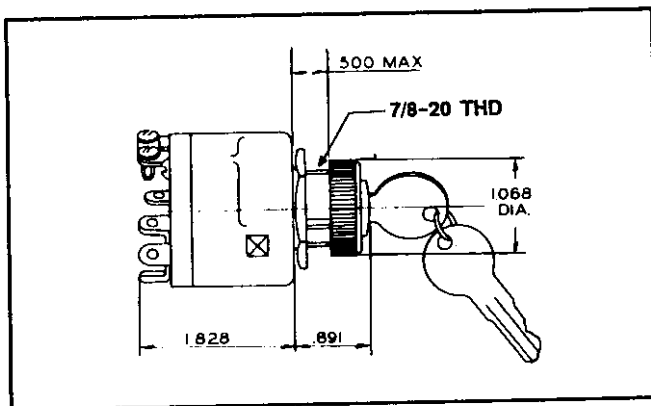


Figure 2. Switch Dimensions

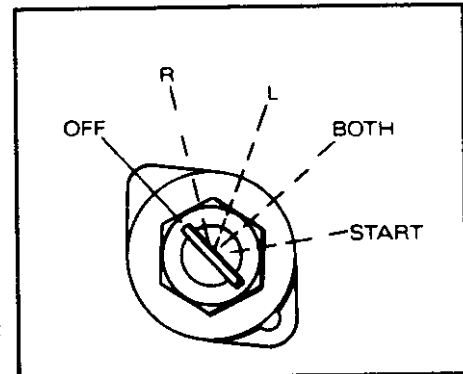
Twist to Start

10-357200-1
with 2 Keys

10-357200-12
with 2 Cessna Keys

10-357230-1
Lever Type

10-357260-1
Lever Type, without
Lever

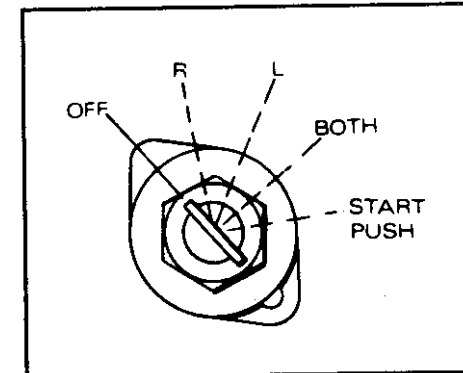


Push to Start

10-357210-1
with 2 Keys

10-357210-9
with 3 Keys

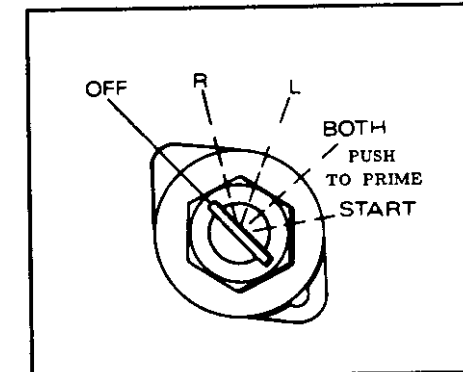
10-357240-1
Lever Type



Twist to Start Push to Prime

10-357220-1
with 2 Keys

10-357250-1
Lever Type



GM Type

10-357290-1
with 2 Keys

10-357290-13
with 2 Cessna Keys

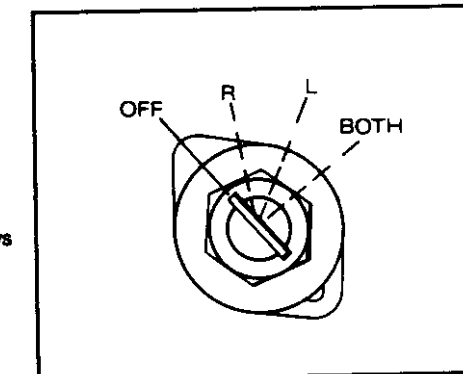


Figure 1. Switch Functions