

Installation Chart for Challenger Air Filter

CHALLENGER INSTALLATION INSTRUCTIONS #0402

Issue Date: July 19, 2006, Revision J

A. Filter (without frame)

1. Remove existing air filter element and discard per the Aircraft Manufacturer's Instructions.
2. Inspect and clean the Air Transfer Ducts and Air Box. Repair or replace all damaged items before installing the new air filter element.
3. Apply a thin layer of Challenger Filter Grease #CP99-0704 on both the top and bottom of the filter's black sealing surfaces.
4. Install new filter in existing air filter box per the Aircraft Manufacturer's Instructions.
5. Apply Service Decal, Part Number (P/N) #CP-0710 to the filter air box cover.

NOTE: The air filter must be mounted securely and with no leaks around the entire aircraft air box assembly.

B. Air Filter Assembly (with frame)

1. Remove and discard the existing air filter framed assembly from the air box per the Aircraft Manufacturer's Instructions
2. Inspect and clean the Air Transfer Ducts and Air Box. Repair or replace all damaged items before installing the new air filter assembly.
3. Mount the Challenger air filter framed assembly to the existing air box with the air flow arrow on service decal P/N #CP-0711 pointing toward the engine.

NOTE: The air filter must be mounted securely and with no leaks around the aircraft air filter assembly or air box assembly. Leaks may allow unfiltered air to enter the engines induction system.

Servicing: Challenger's cleaning instructions must be followed carefully for maximum air filter life. Air filter must be cleaned every 100 hours or every 12 months (whichever occurs first) or sooner if the aircraft is operated in extremely dusty conditions. The air filter must be replaced after 25 cleanings or sooner if any deterioration or damage is found during inspections using Challenger Cleaning Instructions #4003 and the Aircraft Manufacturer's Maintenance Manuals.

STC REQUEST

DATE 2-16-07

Fax, email or send this request to obtain your assigned copy of the STC.

To: Challenger Aviation Products
Attention: Vickie Ponchillia
3530 Lightner Road
Vandalia, OH 45377

Telephone: 937-667-0510, Fax: 937-667-3410 or email: premfiler@aol.com

*AIRCRAFT REGISTERED TO: Charles H Mount Jr.

*AIRCRAFT MODEL: Cessna 177

*AIRCRAFT SERIAL NUMBER: 17700512

*NNUMBER OR REGISTRATION#: N13212T

SEND ORIGINALS? YES X NO
STC PAPERWORK CANNOT BE EMAILED

IF YES, WHO DO WE SEND TO: Southeast Aero Service
385 HawkEye View Lane
St. Augustine FL 32095

COMPANY OR PERSON THAT REQUESTED STC PAPERWORK:

Bryan Wood

* TELEPHONE # 904-377-4698 RETURN FAX#: 904-824-6334

*WHERE DID YOU PURCHASE YOUR AIR FILTER? Aircraft owner purchased

*INVOICE NUMBER *DATE OF PURCHASE

COMMENTS: PerServing Install for Customer.

***ALL BOLD FIELDS MUST BE COMPLETED SO WE MAY COMPLETE YOUR PAPERWORK. IF THIS INFORMATION IS NOT PROVIDED YOUR STC REQUEST WILL BE REJECTED.**

PLEASE NOTE THAT IF A STC REQUEST IS NOT RECEIVED WITHIN 90 DAYS OF PURCHASE THE REQUESTOR WILL BE SUBJECT TO A FEE. THIS STC IS A LEGAL DOCUMENT. PLEASE KEEP IT IN A SAFE PLACE. REISSUING OF A PREVIOUSLY ASSIGNED STC WILL BE SUBJECT TO A FEE.

Send Result Report



MFP

KM-1820

Firmware Version 2GM_2000.003.007 2005.08.01

Job No.: 7367

Total Time: 0'00'47"

Page: 1

Completed

Document Name: doc02162007113418

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SEND ORIGINALS? YES ☒ NO ☐

STC PAPERWORK CARRIER

No.	Date and Time	Destination	Times	Result	Resolution/ECM
1	02/16/07 11:35	19376673410	0'00'47"	OK	200x200 Fine/Off

02-16-07

ISSUED TO: CHARLES H. MOUNT JR.

A/C MODEL: CESSNA 177

S/N: 17700512

N3212T

United States of America
Department of Transportation - Federal Aviation Administration
Supplemental Type Certificate

Number SA01669CH

This certificate issued to

Challenger Aviation Products, Inc.
3530 Lightner Road
Vandalia, OH 45377

notifies that the change in the type design for the following product with the limitations and conditions therefor as specified herein meets the airworthiness requirements of Part 21 of the Regulations.

Original Product: Type Certificate Number:

Model: "A"
Model: "B"

"See attached FAA Approved Model List (AML)

No. SA01669CH for list of Approved airplane models
and applicable airworthiness regulations.

Description of Type Design Change:

Installation of Challenger Re-usable Air Filters in accordance with Installation Instructions on AML No. SA01669CH, issued July 3, 2002, or later FAA approved revision.

Limitations and Conditions:

1. Compatibility of this design change with previously approved modifications must be determined by the installer.
2. A copy of this Certificate and FAA Approved Model List (AML) No. SA01669CH issued July 3, 2002, or later FAA approved revision, must be maintained as part of the permanent records for the modified aircraft.
3. Installer must use Challenger Air Filter Cleaning Instructions (Instructions for Continued Airworthiness) Document #4003, Revision C, dated March 9, 2004, or later FAA approved revision.
4. If the holder agrees to permit another person to use this certificate to alter the product, the holder shall give the other person written evidence of that permission.

This certificate and the supporting data which is the basis for approval shall remain in effect until:

Date of expiration: November 9, 2001

Date issued: May 18, 2004

Date of issuance: July 3, 2002

Date amended: March 10, 2004; May 3, 2004; May 27, 2004; December 10, 2004

Suspended, suspended, revoked or a termination date



is otherwise
established by
the
Administrator
of the Federal
Aviation
Administration

Signature of the Administrator
Thaddeus D. Krolicki, Jr.
(Signature)

Thaddeus D. Krolicki, Jr.
Manager, Propulsion Branch
Chicago Aircraft Certification Office

(Title)

Any alteration of this certificate is prohibited by a fine of not exceeding \$5,000, or imprisonment not exceeding 3 years, or both.
FAA FORM 8130-2 (10-98) PAGE 3 OF 3 PROCP THIS CERTIFICATE MAY BE REPRODUCED IN ACCORDANCE WITH FAR 25.17

Authorized Challenger Representative

Inv# 204798

For Questions regarding this STC please contact:
Challenger Aviation Products, Inc.
PO Box 577
Vandalia OH 45377
937-667-0510

Permission for Use of STC Document

This Supplemental Type of Certificate is the property of Challenger Aviation Products, Inc. Challenger Aviation Products, Inc. authorizes the use of STC data only for the aircraft specified. Unauthorized use of the STC data is a violation of proprietary laws and is subject to legal action. Please keep the STC and installation instructions in a secure location. There will be a charge for issuing replacement documents.

MATERIAL SAFETY DATA SHEET

K&N Engineering, Inc.
P.O. Box 1329
Riverside, Ca. 92502-1329
(909) 826-4100 (M-F 8:00am - 4:00pm Pacific Standard Time)
Chemtrec (800) 424-9300 US / North America Outside US 703-527-3887 (collect calls accepted)
K&N Engineering, Air Filter Oil (Multi Language)

Date Prepared: 9/16/03

K&N PART # 99-0533, 99-0555, 99-18511, 99-0551, 99-11312, 99-5050

PAGE: 1

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This Material Safety Data Sheet contains environmental, health and toxicology information for your employees. Please make sure this information is given to them. It also contains information to help you meet community Right To Know Emergency Response reporting requirements under SARA TITLE III and many other laws. If you resell this product, this MSDS must be given to the buyer or the information incorporated in your MSDS.

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This MSDS complies with 29 CFR 1910.1200 (The Hazard Communication Standard)

===== SECTION 1 - PRODUCT IDENTIFICATION =====

Product Name: K & N Air Filter Oil Red Chemical Name: Oil, n.o.s. Common Name: Petroleum Oil Cas #: Mixture

===== SECTION 2 - COMPOSITION / INFORMATION ON INGREDIENTS =====

Common Name / Chemical Name	CAS #	%
Hydrotreated heavy paraffinic distillate	64742-54-7	<100
Dimethylbenzene	1330-20-7	<1
Methyl lardate	68082-78-0	<2

Contains no other ingredients now known to be hazardous as defined by OSHA 29 CFR 1910.1000(z).

===== SECTION 3 - HAZARD IDENTIFICATION =====

Principle Hazards: Prolonged or repeated skin contact may cause dermatitis.
See section 11 for complete health hazard information

Threshold Limits: The PEL (OSHA) and the TLV (ACGIH) is 5 mg/m3 for oil mists.

Primary Routes of Exposure:

EYE May cause eye irritation if splashed into eyes.

SKIN Repeated or prolonged contact with skin may cause irritation, which may lead to various skin disorders. Avoid prolonged skin contact.

INHALATION Inhalation of vapor or oil mist from this product may cause mild irritation of the respiratory system. Use in well ventilated areas.

ORAL Ingestion may cause nausea, diarrhea and stomach discomfort.

===== SECTION 4 - FIRST AID MEASURES =====

ORAL DO NOT INDUCE VOMITING. If conscious, give 2 glasses of water. Get immediate medical attention.

EYE Flush with water at least 15 minutes. Get medical attention if eye irritation develops or persists.

SKIN Wash immediately with soap and water. Remove soiled clothing. Get medical attention if irritation Develops. Launder contaminated clothing.

INHALATION Remove exposed person to fresh air. If breathing is labored, administer oxygen and obtain immediate Medical attention.

K&N Engineering, Air Filter Oil (Multi Language)

K&N PART # 99-0533, 99-0555, 99-18511, 99-0551, 99-11312

Date Prepared: 9/16/03

Page: 3

===== SECTION 10 - STABILITY AND REACTIVITY =====

STABILITY: Material is normally stable at ambient temperature and pressure.

CONDITIONS TO AVOID: Oxidizing agents. Do not heat above the flash point.

POLYMERIZATION: Will not occur.

DECOMPOSITION: Carbon dioxide, carbon monoxide

===== SECTION 11 - TOXICOLOGICAL INFORMATION =====

ORAL TOXICITY: Swallowing material may cause irritation of the gastrointestinal lining, nausea, vomiting, diarrhea and abdominal pain.

EYE IRRITATION: Not expected to cause eye irritation.

SKIN IRRITATION: Not expected to be a primary skin irritant. Prolonged or repetitive contact may cause irritation.

CARCINOGENIC: This material has not been identified as a carcinogen by NTP, IARC, or OSHA.

===== SECTION 12 - ECOLOGICAL INFORMATION =====

This material is expected to have adverse affects on marine and plant life. Spills may contaminate drinking water.

===== SECTION 13 - DISPOSAL CONSIDERATIONS =====

DISPOSAL: Consult federal, state and local regulations regarding disposal methods. Recycle used oil. Do not contaminate used oil with solvents or other chemicals.

===== SECTION 14 - TRANSPORTATION INFORMATION =====

See 49 CFR part 171.8 through 178.510

DOT SHIPPING NAME: Oil, n.o.s.

DOT HAZARD CLASS: Not Regulated UN/NA NUMBER: NA 1270 GUIDE NUMBER: 27 IMDG CODE

Materials classified as DOT Combustible liquids (Flash Point >141° F and <200° F) are not regulated by DOT in containers of 110 gallons, or less for domestic shipments.

===== SECTION 15 - REGULATORY INFORMATION =====

TSCA	All components of this material are on the US TSCA inventory.	
SARA 311	CAL PROP 65 Not listed	
SARA 312	RCRA Not listed	
SARA 313	contains <1 ppm xylene	CERCLA Listed

===== SECTION 16 - OTHER INFORMATION =====

	Health	Fire	Reactivity	PPE
HMIS CODE:	1	1	0	C
NFPA CODE:	1	1	0	

Precautionary labels: NA

ADDITIONAL COMMENTS:

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since the information contained herein may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modification of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make their own determination of the suitability of the material for their particular purpose.

INSTRUCTIONS FOR CONTINUED AIRWORTHINESS

Airworthiness limitations section is FAA approved and specifies maintenance required under sections 43.16 and 91.403 of the Federal Aviation Regulations unless alternative program has been approved.

AIRWORTHINESS LIMITATIONS

Challenger's air filter elements are enclosed in a frame or without a frame depending on the aircraft model. Challenger's air filter charging instructions must be followed carefully for maximum air filter life. The air filter must be recharged every 100 hour or 12 months, or sooner if operated in extremely dusty conditions. The air filter assembly must be replaced after 25 cleanings or sooner if any deterioration or damage is found during pre-flight, post flight or any other aircraft inspections.

Note: Air Filters exposed to in flight rain encounter must be inspected before next flight. If red oil color is missing, then clean and re-oil per these instructions.

Step 1: Remove the air filter assembly from the aircraft air box per the Aircraft Manufacturer's Instructions. **DO NOT REMOVE** the filter element from inside its frame. Remove the old sealing gasket from the filter assembly with the frame.

Step 2: Begin re-charging the Challenger Air Filters by "gently" tapping the filter assembly on a hard surface to remove any loose dust that will easily fall off the filter. Visually inspect the filter for any damage, cracks, broken wires or missing fibers. If any of these conditions are visible, the filter assembly must be scrapped and replaced with a new filter assembly.

Step 3: Begin cleaning with Challenger Re-charger Kit P/N CP-99-5050, the only FAA approved re-charge kit. Inside are two squeeze bottles, one for cleaning and one red in color for re-oiling the filter element. Remove the bottle containing cleaning fluid and thoroughly saturate the filter. Allow the filter to soak for approximately 15 minutes. **DO NOT USE ANY OTHER CLEANING FLUID**

Step 4: Flush the filter with low non-pressurized warm water starting from inside out for round filters and front to back for flat filters. After flushing the filter, gently shake the water out of the filter and allow to air dry only. **DO NOT USE ANY OTHER DRYING METHOD.**

Step 5: Remove the bottle from the Re-charger kit P/N CP-99-5050 containing oil red in color. Begin re-oiling the dry filter by applying a bead or line of red oil along the top only of each pleat of the filter. The oil will soak into the length of each pleat. It may be necessary to apply oil on filter material that has not received oil from the wicking action. The entire filter medium must be covered with red oil. **DO NOT OVER OIL.** If oil drips from the filter, it has been over oiled. Allow the filter to drain the excess oil onto a clean rag or paper towel until the red oil stops dripping. Install a new gasket on the frame surface to be mounted to the air box assembly.

Step 6: Re-Install the air filter per the Aircraft Maintenance Instructions and Challenger Installation Instruction #0402. Make sure the air filter assembly is properly seated and is mounted securely to the filter air box assembly in accordance with the Aircraft Manufacture's Specification.

NOTE: Do not use gasoline, jet fuel, or caustic cleaning solutions or shop solvents. Use only FAA approved Challenger cleaning solution in Challenger Re-charger Kit P/N CP-99-5050.

Do not use steam cleaning equipment or any other cleaning devices: When drying the filter after cleaning, let the filter dry naturally. Pressurized equipment will strip the cotton of critical microfilaments. Do not use compressed air, open flames or heating devices of any kind. When recharging the filter with oil, use only FAA approved Challenger Re-charger Oil in Re-charger Kit P/N CP-99-5050. The oil is the same oil applied at the factory during the manufacturing process.

Do not use transmission fluid, motor oil, or any other lightweight oil of any kind or any products containing petroleum products.

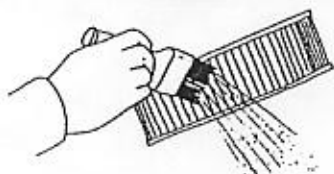
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CHICAGO AIRCRAFT
CERTIFICATION OFFICE
CENTRAL REGION



AIR FILTER CLEANING INSTRUCTIONS

1. PRE-CLEANING

Tap the element to dislodge any large embedded dirt, then gently brush with a soft bristle brush.



4. CLEANING HINTS

Use **ONLY** Challenger air filter cleaner.

NO gasoline cleaning
NO steam cleaning
NO caustic cleaning solutions
NO strong detergents
NO high pressure car wash
NO parts cleaning solvents

Any of these NO's can cause harm to the cotton filter media, plus shrink and harden the rubber end caps.

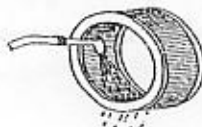
2. SPRAY ON CLEANER

Spray Challenger air filter cleaner liberally onto the entire element and let soak for 10 minutes.



5. RINSE OFF

Rinse off the element with low pressure water. Tap water is OK. Always flush from the clean side to dirty side. This removes the dirt and does not drive it in to the filter.



3. PAN CLEANING

Roll filter in a shallow tray of cleaner. Do not let the dirty solution run inside the filter. Wait for 5 minutes MAX.



6. DRYING HINTS

Always dry naturally. After rinsing, shake off all excess water and let the element dry naturally.

DO NOT USE COMPRESSED AIR
DO NOT USE OPEN FLAME
DO NOT USE HEAT DRYERS

EXCESS HEAT WILL SHRINK THE COTTON
FILTER MEDIA.

COMPRESSED AIR WILL BLOW HOLES IN
THE ELEMENT.

7. SQUEEZE BOTTLE OILING

Put a light strip of oil on each pleat.



DO NOT OVER OIL

8. OILING HINTS

Never use a Challenger air filter without oil. (The filter WILL NOT stop the dirt without the oil.) Use only Challenger formulated air filter oil.

Challenger air filter oil is a compound of mineral and animal oil blended with special polymers to form a very efficient tack barrier. Red dye is added to show just where you have applied the oil. Eventually the red color will fade but the oil will remain and filter the air.

NEVER USE SHOP SOLVENT
NEVER USE UNAPPROVED OIL
NEVER USE AVIATION OR AUTO FUEL
NEVER USE WD-40, LPS OR OTHER LIGHT WEIGHT OILS.

Challenger Aviation Products, Inc
PO Box 577
3530 Lightner Road
Vandalia, OH 45377
937-667-0510 or Premfilter@AOL.com

CHALLENGER AVIATION PRODUCTS WARRANTY

Challenger Aviation Products ("*Challenger*") warrants that products sold by it are, at the time of delivery, free from defects in material and workmanship, provided that no warranty is made with respect to:

- (a) any product that has been subject to negligence, accident or improper storage;
- (b) any product that has been improperly installed or maintained; or
- (c) any product that has been operated beyond normal or recommended replacement intervals.

Challenger's obligation under this warranty is limited to the replacement of, or at *Challenger's* option, the return of the purchase price of any product which is returned to *Challenger* or its designated representative (at customer's expense) within one (1) year from the date of purchase and which, upon inspection by *Challenger* is found by *Challenger* to be defective in material or workmanship. *Challenger* shall not be responsible for the cost of labor, removing any defective product, or installing any replacement product.

THE AFORESAID WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, WHETHER EXPRESSED, IMPLIED OR STATUTORY, INCLUDING, BUT NOT BY WAY OF LIMITATION, ANY WARRANTY OF MERCHANT ABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE.

IN NO EVENT SHALL *CHALLENGER* BE LIABLE FOR SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES (REGARDLESS OF THE FORM OF ACTION, WHETHER IN CONTRACT OR IN TORT INCLUDING NEGLIGENCE) NOR LOST PROFITS, NOR SHALL *CHALLENGER'S* LIABILITY FOR ANY CLAIMS OR DAMAGE ARISING OUT OF OR CONNECTED WITH THE MANUFACTURE, SALE DELIVERY, OR USE OF ANY PRODUCTS EXCEED THE PURCHASE PRICE OF THE PRODUCT.