

**Engine Record** General Information

Manufacturer CONTINENTAL Model GTS10-520-NCMCL

Serial 610038 Type Certificate \_\_\_\_\_

This engine is currently installed in aircraft N31C

Minimum Octane Fuel \_\_\_\_\_ Oil Grade: Summer \_\_\_\_\_ Winter \_\_\_\_\_

Magneto Time \_\_\_\_\_ Point Setting \_\_\_\_\_ Firing Order \_\_\_\_\_

Spark Plug Gap \_\_\_\_\_

Manufacturer recommended overhaul at 1600 hours

14-26-90

Notes

This Engine installed in 421C - N31C  
on Left Side after overhaul - Test Run OK  
D. J. Miller AP2179044

DATE 19 <u>96</u>	RECORDING TACH TIME	TODAY'S FLIGHT	TOTAL TIME IN SERVICE	Description of Inspections, Tests, Repairs and Alterations Entries must be endorsed with Name, Rating and Certificate Number of Technician or Repair Facility. (See back pages for other specific entries.)
				<p style="text-align: right;">1700BBS</p> <p>Date <u>4-26-96</u> Time <u>1468.2</u></p> <p>I certify that this aircraft/engine has been</p> <p>inspected in accordance with <u>anomal</u></p> <p>inspection and was determined to be in airworthy</p> <p>condition.</p> <p><i>[Signature]</i> <u>AC 2179641.1P</u></p>
				Mag changed 1390.140BBS
				AFT changed 1390.140BBS
				VCC Pump 1284.140BBS
				Governor & Accumulator 1452.4
				HOSE Kit - 1452.4

# SAS Spectrum Aircraft Services

DATE

19

9623 West Terminal Drive • San Antonio, Tx 78216  
(210) 824-2313 ext. 5233 • 1-800-237-2313 ext. 5233  
FAX (210) 824-2858

DATE: 4/25/96

TT: 1468.7

TSMO: 00.00

TCM ENGINE GTSIO520L

S/N : 610038 LEFT ENGINE

Repair

Engine Major Overhauled according to TCM Overhaul Manual X30045-A.  
Case overhauled by AJAX AVIATION, San Antonio, TX. to factory new  
dimensions. All Cylinder Base Studs replaced new. All new Plugs and  
Bearings. All Cylinders replaced with new Rebarrel Cylinders, 646100.  
Replaced 6ea. Intake Valves 539988. Replaced 6ea. Exhaust valves  
646286. Replaced 6ea. Valve Springs 637837. Replaced 6ea. Valve  
Rotators 629117. Replaced 24 Valve Keepers 24802. Replaced 6ea. Valve  
Seals 641952-A1. Replaced Washer Tab 24 ea. 501868. Replaced 6ea.  
Rebushed Rocker Arms 652966. Replaced 12ea. Rocker Shaft 631815. Re-  
placed all 6 Rods with 646437-A1 with overhauled units. Replaced 12ea.  
Bolts 631794. Replaced 12ea. Cotter Pins AN381-25-10. Replaced 12ea.  
Rod Bearings 630826 M10. Replaced 6ea. Valve Springs 631521. Replaced  
4ea. Bearings 630571 M10. Replaced all 6 Piston Pins 630046.

(1 of 3)



DATE

19

Replaced Pistons 646303, WT.1538  
 Grams. Replaced Rings SA5000A5, STD.  
 Camshaft overhauled to Factory new  
 dimensions 646273. Replaced 6ea.

Lifter 628488. Replaced 6ea. Exhaust Lifters

646277. Replaced Woodruff Key MS35756-8. Camshaft Gears magnafluxed  
 O.K. Crankshaft magnafluxed, cleaned & polished. All Counter WT.

Bushings changed - work accomplished by E.C.I. All Counter WTS.

changed SB90-12. All new Counter WT. Pins 643626-104, 12ea. Replaced  
 all 24ea. Counter WT. Plates 631808. Replaced C/W Retaining Rings

24ea. 629004, C/WT Weight 812 Grams. Changed Crankshaft Gear & Starter

Drive ASSBLY. according to SB94-4. Prop Shaft magnafluxed & polished  
 to new Factory STD. Dimensions. Replaced Thrust Washers 4ea. 646260.

Replaced Prop Seal 638161. Replaced Plates on ALT Drive Gear & Bolts,  
 641909 & 634080. Replaced Oil Transfer Tube Sleeve 629296. Replaced

"O" Ring AN123862. Replaced 4ea. Prop Shaft Bearing STD. 630464.

Replaced 4ea. Intermediate Shaft magnafluxed & polished to Factory

new STD. Dimensions. Replaced all 8ea. Crankshaft Bearings 634503 M10.



*Spectrum Aircraft Services*

9623 West Terminal Drive ♦ San Antonio, Tx 78216

(210) 824-2818 ext. 8238 ♦ 1-800-327-2818 ext. 8238

FAX (210) 824-8888

Repair

(2 of 3)



DATE 1926	RECORDING TACH TIME	TODAY'S FLIGHT	TOTAL TIME IN SERVICE	Description of Inspections, Tests, Repairs and Alterations Entries must be endorsed with Name, Rating and Certificate Number of Technician or Repair Facility. (See back pages for other specific entries.)
4/15/96		4-16-87		Filled with 13 qts aeroshock 50 wt non Det & Filter changed CH48111, Test Run & OK for Return to Service  D. H. Pato #PR1796441R
4-18-96				TACH RESEAL TACH DRIVE ADAPTER & REPLACE WITH NEW NUTS - PRESS. OK. OK Charles D. Smith AF2013572

\*Optional installer must cross

FAA Form 8130-3

17. NAME (typed or printed):		18. DATE:		22. Name (typed):	
15. SIGNATURE:		16. FAA Authorization No:		20. Authorized:	
<p>NOTE: In case of parts to be exported, the special requirements of the importing country must be met.</p> <p>13 was (were) manufactured in accordance with FAA approved design data and airworthiness requirements. Certifies that the new or newly overhauled part(s) identified above, except as otherwise specified, is (were) manufactured in accordance with FAA approved design data and airworthiness requirements.</p> <p>14. NEW <input type="checkbox"/> NEWLY OVERHAUL <input type="checkbox"/></p> <p>Limited life parts must normally be accompanied by maintenance history including total time/total hours.</p>					

DATE 19__	RECORDING TACH TIME	TODAY'S FLIGHT	TOTAL TIME IN SERVICE	Description of Inspections, Tests, Repairs and Alterations Entries must be endorsed with Name, Rating and Certificate Number of Technician or Repair Facility. (See back pages for other specific entries.)
8-19-96	TTA 3268.4	HOBBS 0060.7		CHANGED OIL & FILTER SERVICED WITH SHELL W100 - 12 QTS - COMPLETED VISUAL INSPECTION OF ENGINE - RUN ENG - PRESSURE & LEAK CHECK OK Justin Goodwin AIP 493966228
9-13-96	TTA 3276.5	HOBBS 68.8		REMOVE & REPLACE INOPERABLE ALTERNATOR WITH NEWLY OVERHAULED UNIT RUN ENG - OP'S CK OK Justin Goodwin AIP 493966228



nician or Rep

DATE 1978	RECORDING TACH TIME	TODAYS FLIGHT	TOTAL TIME IN SERVICE	DESCRIPTION OF INSPECTIONS, TESTS, REPAIRS AND ALTERATIONS ENTRIES MUST BE ENDORSED WITH NAME, RATING AND CERTIFICATE NUMBER OF MECHANIC OR REPAIR FACILITY. (SEE BACK PAGES FOR OTHER SPECIFIC ENTRIES.)
10-24	79.3			REMOVED ALL INTAKE AND EXHAUST LIFTERS FOR TESTING AND ADJUSTING THE BLEED DOWN RATE BY AIRCRAFT SPECIALTIES INC. CRS# DD2R764K REINSTALLED LIFTERS WITH NEW GASKETS, LOCKS & SEALS. CHECKED VALVE LIFTER DRY CLEARANCE AND FOUND WITHIN TCM LIMITS. REMOVED FUEL INJECTION MANIFOLD AND NOZZLES FOR FLOW TESTING. ONE NOZZLE REPLACED DUE TO BEING CRACKED. REINSTALLED COMPONENTS. REMOVED BOTH MAGNETOS FOR DRIVE COUPLING PADS INSPECTION. INSTALLED NEW DRIVE RUBBER BUSHINGS AND REINSTALLED AND TIMED MAGS TO ENGINE. ENGINE GROUND RUN, A/C FLOWN AND ENGINE APPROVED FOR RETURN TO SERVICE. SEE ATTACHED RELEASE TAG.
WD # 20352 DATE 10/24/78 HRS 79.3 AUTOPILOTS, CENTRAL, INC. WUSA, OK 74115 FAX CRS02R747K				SIGNATURE <i>[Signature]</i>

DATE	RECOR TACH TIME
19	

DATE 19__	RECORDING TACH TIME	TODAY'S FLIGHT	TOTAL TIME IN SERVICE	Description of Inspections, Tests, Repairs and Alterations Entries must be endorsed with Name, Rating and Certificate Number of Technician or Repair Facility. (See back pages for other specific entries.)
Date <u>12-6-96</u>				Time <u>3317.7 TIA</u> Hobbs 110.0 & TSMO H
I certify this				<u>ENGINE</u>
has been inspected in accordance				<u>ENGINE INSPECTION</u>
with a				<u>100 HR</u> <u>COMPRESSION 74-74-74-74-68-73/80</u>
inspection and was determined to be				<u>CLEAN SCREENS &amp; FILTERS</u>
in an airworthy condition.				<u>SERVICE WITH SHELL</u>
<u>James D. Siler</u>				<u>60W OIL - RUD &amp; PRESS.</u>
Signature				<u>CK. CK. SERV. INJECTORS</u>
Springfield Aircraft				<u>W/O# 3759 &amp; P1495</u>
Charter and Sales				

**Description of Inspections, Tests, Repairs and Alterations**  
 Entries must be endorsed with Name, Rating and Certificate Number of Technician or Repair Facility. (See back pages for other specific entries.)

Facility. (See back pages for other specific entries.)

4-3-7

TOTAL TIME IN SERVICE	TODAY'S FLIGHT
10	10
20	20
30	30
40	40
50	50
60	60
70	70
80	80
90	90
100	100

01.18.6	CHANGED OIL + FILTER - SERVED	12	OTS	W102 AFROSH LLC - RAN ENG - PRESS
01.18.6	CHANGED OIL + FILTER - SERVED	12	OTS	W102 AFROSH LLC - RAN ENG - PRESS

OK	OK
----	----

Justin Bodnar Art 493966228

4-26-77

1 2 3 4 5

13 cft. Forestall 1100 and new CH4511  
Mfg. (no. 2076 2073 2072 2071 2070 2069 2068 2067 2066 2065 2064 2063 2062 2061 2060 2059 2058 2057 2056 2055 2054 2053 2052 2051 2050 2049 2048 2047 2046 2045 2044 2043 2042 2041 2040 2039 2038 2037 2036 2035 2034 2033 2032 2031 2030 2029 2028 2027 2026 2025 2024 2023 2022 2021 2020 2019 2018 2017 2016 2015 2014 2013 2012 2011 2010 2009 2008 2007 2006 2005 2004 2003 2002 2001 2000 1999 1998 1997 1996 1995 1994 1993 1992 1991 1990 1989 1988 1987 1986 1985 1984 1983 1982 1981 1980 1979 1978 1977 1976 1975 1974 1973 1972 1971 1970 1969 1968 1967 1966 1965 1964 1963 1962 1961 1960 1959 1958 1957 1956 1955 1954 1953 1952 1951 1950 1949 1948 1947 1946 1945 1944 1943 1942 1941 1940 1939 1938 1937 1936 1935 1934 1933 1932 1931 1930 1929 1928 1927 1926 1925 1924 1923 1922 1921 1920 1919 1918 1917 1916 1915 1914 1913 1912 1911 1910 1909 1908 1907 1906 1905 1904 1903 1902 1901 1900 1899 1898 1897 1896 1895 1894 1893 1892 1891 1890 1889 1888 1887 1886 1885 1884 1883 1882 1881 1880 1879 1878 1877 1876 1875 1874 1873 1872 1871 1870 1869 1868 1867 1866 1865 1864 1863 1862 1861 1860 1859 1858 1857 1856 1855 1854 1853 1852 1851 1850 1849 1848 1847 1846 1845 1844 1843 1842 1841 1840 1839 1838 1837 1836 1835 1834 1833 1832 1831 1830 1829 1828 1827 1826 1825 1824 1823 1822 1821 1820 1819 1818 1817 1816 1815 1814 1813 1812 1811 1810 1809 1808 1807 1806 1805 1804 1803 1802 1801 1800 1799 1798 1797 1796 1795 1794 1793 1792 1791 1790 1789 1788 1787 1786 1785 1784 1783 1782 1781 1780 1779 1778 1777 1776 1775 1774 1773 1772 1771 1770 1769 1768 1767 1766 1765 1764 1763 1762 1761 1760 1759 1758 1757 1756 1755 1754 1753 1752 1751 1750 1749 1748 1747 1746 1745 1744 1743 1742 1741 1740 1739 1738 1737 1736 1735 1734 1733 1732 1731 1730 1729 1728 1727 1726 1725 1724 1723 1722 1721 1720 1719 1718 1717 1716 1715 1714 1713 1712 1711 1710 1709 1708 1707 1706 1705 1704 1703 1702 1701 1700 1699 1698 1697 1696 1695 1694 1693 1692 1691 1690 1689 1688 1687 1686 1685 1684 1683 1682 1681 1680 1679 1678 1677 1676 1675 1674 1673 1672 1671 1670 1669 1668 1667 1666 1665 1664 1663 1662 1661 1660 1659 1658 1657 1656 1655 1654 1653 1652 1651 1650 1649 1648 1647 1646 1645 1644 1643 1642 1641 1640 1639 1638 1637 1636 1635 1634 1633 1632 1631 1630 1629 1628 1627 1626 1625 1624 1623 1622 1621 1620 1619 1618 1617 1616 1615 1614 1613 1612 1611 1610 1609 1608 1607 1606 1605 1604 1603 1602 1601 1600 1599 1598 1597 1596 1595 1594 1593 1592 1591 1590 1589 1588 1587 1586 1585 1584 1583 1582 1581 1580 1579 1578 1577 1576 1575 1574 1573 1572 1571 1570 1569 1568 1567 1566 1565 1564 1563 1562 1561 1560 1559 1558 1557 1556 1555 1554 1553 1552 1551 1550 1549 1548 1547 1546 1545 1544 1543 1542 1541 1540 1539 1538 1537 1536 1535 1534 1533 1532 1531 1530 1529 1528 1527 1526 1525 1524 1523 1522 1521 1520 1519 1518 1517 1516 1515 1514 1513 1512 1511 1510 1509 1508 1507 1506 1505 1504 1503 1502 1501 1500 1499 1498 1497 1496 1495 1494 1493 1492 1491 1490 1489 1488 1487 1486 1485 1484 1483 1482 1481 1480 1479 1478 1477 1476 1475 1474 1473 1472 1471 1470 1469 1468 1467 1466 1465 1464 1463 1462 1461 1460 1459 1458 1457 1456 1455 1454 1453 1452 1451 1450 1449 1448 1447 1446 1445 1444 1443 1442 1441 1440 1439 1438 1437 1436 1435 1434 1433 1432 1431 1430 1429 1428 1427 1426 1425 1424 1423 1422 1421 1420 1419 1418 1417 1416 1415 1414 1413 1412 1411 1410 1409 1408 1407 1406 1405 1404 1403 1402 1401 1400 1399 1398 1397 1396 1395 1394 1393 1392 1391 1390 1389 1388 1387 1386 1385 1384 1383 1382 1381 1380 1379 1378 1377 1376 1375 1374 1373 1372 1371 1370 1369 1368 1367 1366 1365 1364 1363 1362 1361 1360 1359 1358 1357 1356 1355 1354 1353 1352 1351 1350 1349 1348 1347 1346 1345 1344 1343 1342 1341 1340 1339 1338 1337 1336 1335 1334 1333 1332 1331 1330 1329 1328 1327 1326 1325 1324 1323 1322 1321 1320 1319 1318 1317 1316 1315 1314 1313 1312 1311 1310 1309 1308 1307 1306 1305 1304 1303 1302 1301 1300 1299 1298 1297 1296 1295 1294 1293 1292 1291 1290 1289 1288 1287 1286 1285 1284 1283 1282 1281 1280 1279 1278 1277 1276 1275 1274 1273 1272 1271 1270 1269 1268 1267 1266 1265 1264 1263 1262 1

forward inspection and was determined  
inspected in accordance with  
evidence, & testify that the engine was  
removed from the motor along with #2  
and the engine was removed at the place.



DATE 19__	RECORDING TACH TIME	TODAY'S FLIGHT	TOTAL TIME IN SERVICE	Description of Inspections, Tests, Repairs and Alterations Entries must be endorsed with Name, Rating and Certificate Number of Technician or Repair Facility. (See back pages for other specific entries.)
				to be in an airworthy condition. Inspection done using Cessna 441 C service manual Check list A, 2-10 1/2 Apr 2-20 2P, Fnd <i>[Signature]</i> FA106626312
4-28-97		HOBBS 0194.9	TTA 3402.5	Hour meter ran while aircraft on jacks - hour meter progressed HM 227.2 63.2 3402.5 32.4 HRS - NOW READS 0227.2 - THIS TIME NOT ADDED TO TOTAL TIME - TTA 3402.5 <i>[Signature]</i> Gordon Goodwyn AIP 493966228



DATE 19__	RECORDING TACH TIME	TODAY'S FLIGHT	TOTAL TIME IN SERVICE	Description of Inspections, Tests, Repairs and Alterations Entries must be endorsed with Name, Rating and Certificate Number of Technician or Repair Facility. (See back pages for other specific entries.)
7-10-97		TA	3438.8	Hour meter ran while aircraft on jacks -
		↑		Hour meter now reads 3270.4 at total
	H.M. 290.4	18.3		time 3438.8 - total time not affected
		↓		Justin' Goodwyn AP493966228
7-22-97		TA	3457.1	Complied with S.B. CSB97-9 by removing
				7th stud nut + bracket + performing a
	H.M. 308.7	11.7		visual + dye penetrant inspection as per
				CSB 97-9 - aft alternator stud already
				installed - ops ck ok Justin' Goodwyn AP493966228

DATE 19__	RECORDING TACH TIME	TODAY'S FLIGHT	TOTAL TIME IN SERVICE	Description of Inspections, Tests, Repairs and Alterations Entries must be endorsed with Name, Rating and Certificate Number of Technician or Repair Facility. (See back pages for other specific entries.)
7-31-97	0320.4		3468.8	CHANGED OIL & FILTER - SERVICED WITH SHELL
				W100 - 12 QTS - RAN ENG - PRES. CK. OK.
		37.9		<i>Justin Gooding</i> AIP 493966228
9-23-97	TTA	3506.7		CHANGED OIL & FILTER - SERVICED WITH
	H.M. 354.3			SHELL W100 - 12 QTS - RAN ENG - PRES CK OK -
Comp PR	1-76/2-70/3-66/4-73/5-65/6-71			NO LEAKS FOUND - REPLACED ORING AT WASTE-
				GATE CONTROLLER FITTING - I CERTIFY THAT
				THIS ENGINE WAS INSPECTED IN ACCORDANCE
				WITH A 100 HR INSP. AND WAS FOUND TO BE IN
				AN AIRWORTHY CONDITION - <i>Justin Gooding</i> AIP 493966228



DA  
19.

***Left Engine Log Book Entry By Yingling Aircraft Inc.***

P.O. Box 9248, Wichita, KS 67277 FAA CRS BWRR668C

For: N31C, 421C-0096

Recorded Hours: 450.1

Aircraft Total Time: 3598.5

Engine Total Time: 3781.50

Eng. Time Since Overhaul: 390.0

Completed an Annual Inspection at this time. Drained the engine oil, installed a new oil filter and serviced the engine with Aeroshell W80. Checked the cylinder compression and magneto timing. Installed all new spark plugs. Cleaned the fuel metering unit screen, the injection nozzles, and the induction air filter element. Installed a new support bracket for the fuel distributor valve. Installed an overhauled 642343 cylinder assembly in the # 6 position. Installed a new exhaust clamp between the turbo and the overboard exhaust stack.

I certify this Engine has been inspected in  
accordance with an Annual Inspection and is presently  
Airworthy and Approved for Return to Service  
Yingling Aircraft, Inc. Wichita, Kansas  
FAA CRS# BWRR668C W.O. 12657/12708

  
Rec. Hrs. 450.1 Date 02-10-98



Model GTSIO520L  
S/N 610038  
N# 31C

**BEN'S AIRCRAFT MAINTENANCE, INC.**

4001 SANTA ANITA AVE.  
EL MONTE, CA 91731

FAA Approved Repair Station No. B1TR142N

**LFT POWERPLANT LOGBOOK INSERT**

DATE: 4/27/98

W.O.# 2252

TACH.           

HOBBS 481.1

SMOH           

TT           

or Repair

The aircraft and/or component identified above was repaired and inspected in accordance with current Federal Air Regulations and was found airworthy for return to service. Pertinent details of the repair are on file at this agency.

Date: 4/27/98

Signed [Signature]

Changed oil and filter, performed visual inspection of exhaust system.  
Serviced with Aeroshell W 100 50 wt. Inspected air filter, ok.  
Run up satisfactory, approved for return to service.

END

Model GTSIO520L  
S/N 610038  
N# 31C

**BEN'S AIRCRAFT MAINTENANCE, INC.**

4001 SANTA ANITA AVE.  
EL MONTE, CA. 91731

FAA Approved Repair Station No. B1TR142N

**LFT POWERPLANT LOGBOOK INSERT**

DATE: 5/5/98

W.O.# 2223

TACH.           

HOBBS 459.1

SMOH           

TT           

1 or Repair

The aircraft and/or component identified above was repaired and inspected in accordance with current Federal Air Regulations and was found airworthy for return to service. Pertinent details of the repair are on file at this agency.

Date: 5/5/98

Signed 

Performed 50 hr. inspection, cleaned and gapped plugs, checked magneto timing. Inspected exhaust system, and fuel system. Resealed #2 and #5 valve covers. Changed oil and filter, serviced with Aeroshell w100 50 wt. Run up satisfactory, approved for return to service.

END

DA  
19.

Model GTSIO520L  
S/N 610038  
N# 31C

**BEN'S AIRCRAFT MAINTENANCE, INC.**

4001 SANTA ANITA AVE.  
EL MONTE, CA. 91731

FAA Approved Repair Station No. B1TR142N  
**POWERPLANT LOGBOOK INSERT**

**LFT**

DATE: 5/15/98  
W.O.# 2278  
TACH. \_\_\_\_\_  
HOBBS 509.6  
SMOH \_\_\_\_\_  
TT \_\_\_\_\_

Repair

The aircraft and/or component identified above was repaired and inspected in accordance with current Federal Air Regulations and was found airworthy for return to service. Pertinent details of the repair are on file at this agency.

Date: 5/15/98

Signed \_\_\_\_\_

Changed oil and filter, performed visual inspection of exhaust system.  
Serviced with Aeroshell W 100 50 wt. Inspected air filter, ok.  
Run up satisfactory, approved for return to service.

END

Model GTSIO520L  
S/N 610038  
N# 31C

**BEN'S AIRCRAFT MAINTENANCE, INC.**

4001 SANTA ANITA AVE.  
EL MONTE, CA 91731

FAA Approved Repair Station No. B1TR142N

**LFT**

**POWERPLANT LOGBOOK INSERT**

DATE: 12/10/98

W.O.# 2331

TACH.           

HOBBS 549.4

SMOH 489.3

TT 3880.8

Repair

The aircraft and/or component identified above was repaired and inspected in accordance with current Federal Air Regulations and was found airworthy for return to service. Pertinent details of the repair are on file at this agency.

Date: 12/10/98

Signed 

Performed 100 hr. inspection per TCM service manual and FAR 43,  
apdx. D. Comp. test ; #1 72, #2 72, #3 72, #4 68, #5 74, #6 75.



DATE

19\_\_

Model GTSIO520LS/N 610038N# 31C**BEN'S AIRCRAFT MAINTENANCE, INC.**

4001 SANTA ANITA AVE.

EL MONTE, CA. 91731

FAA Approved Repair Station No. B1TR142N

**LFT****POWERPLANT LOGBOOK INSERT**DATE: 1/26/99W.O.# 2404

TACH. \_\_\_\_\_

HOBBS 581.1

SMOH \_\_\_\_\_

TT \_\_\_\_\_

Repair

The aircraft and/or component identified above was repaired and inspected in accordance with current Federal Air Regulations and was found airworthy for return to service. Pertinent details of the repair are on file at this agency.

Date: 1/26/99Signed 

Performed 25 hr. inspection , Inspected exhaust system by pressure test.  
Changed oil and filter, serviced with Aeroshell W 100 50 wt.  
Run up satisfactory, approved for return to service.

**END**

Model GTSIO520L  
S/N 610038  
N# 31C

**BEN'S AIRCRAFT MAINTENANCE, INC.**

4001 SANTA ANITA AVE.

EL MONTE, CA. 91731

FAA Approved Repair Station No. B1TR142N

**LFT**

**POWERPLANT LOGBOOK INSERT**

DATE: 3/22/99

W.O.# 2429

TACH.         

HOBBS 602.6

SMOH         

TT         

Repair

The aircraft and/or component identified above was repaired and inspected in accordance with current Federal Air Regulations and was found airworthy for return to service. Pertinent details of the repair are on file at this agency.

Date: 3/22/99

Signed [Signature]

Changed oil and filter, visually inspected exhaust system. Found turbo charger to be leaking oil on hot side. Removed turbo for overhaul by Approved Turbo Components, see W.O. 16611 and form 8130-3. Installation was in accordance with Cessna service manual, and Garrett, service manual. Serviced with Aeroshell W 100 50 WT. Removed propeller governor for reseal by True Speed Governor Shop, see yellow tag. Run up satisfactory, approved for return to service.

END

DA1

19

Model GTSIO520LS/N 610038N# 31C**BEN'S AIRCRAFT MAINTENANCE, INC.**

4001 SANTA ANITA AVE.

EL MONTE, CA. 91731

FAA Approved Repair Station No. B1TR142N

*LFT***POWERPLANT LOGBOOK INSERT**DATE: 4/30/99W.O.# 2454TACH.         HOBBS 631SMOH         TT         Repair         

The aircraft and/or component identified above was repaired and inspected in accordance with current Federal Air Regulations and was found airworthy for return to service. Pertinent details of the repair are on file at this agency.

Date: 4/30/99Signed 

Changed oil and filter, opened filter for inspection. Removed fuel injectors to clean. Serviced with Aeroshell W 100 50 wt. Run up satisfactory, approved for return to service.

END

DA  
19

Model GTSIO520L  
S/N 610038  
N# 31C

**BEN'S AIRCRAFT MAINTENANCE, INC.**

4001 SANTA ANITA AVE.  
EL MONTE, CA. 91731

FAA Approved Repair Station No. B1TR142N  
**POWERPLANT LOGBOOK INSERT**

**LFT**

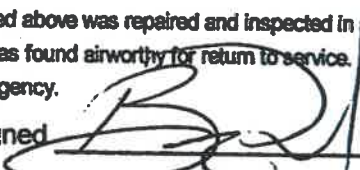
DATE: 9/9/99  
W.O.# 2555  
TACH.           
HOBBS 665  
SMOH           
TT         

Repair

The aircraft and/or component identified above was repaired and inspected in accordance with current Federal Air Regulations and was found airworthy for return to service. Pertinent details of the repair are on file at this agency.

Date: 9/9/99

Signed

  
Changed oil and filter, opened filter for inspection. Inspected exhaust system. Installed new EGT probe on #5 cylinder.  
Run up satisfactory, approved for return to service

END



DATE

19\_\_

Model GTSIO520LS/N 610038N# 31C**BEN'S AIRCRAFT MAINTENANCE, INC.**

4001 SANTA ANITA AVE.

EL MONTE, CA. 91731

FAA Approved Repair Station No. B1TR142N

**LFT****POWERPLANT LOGBOOK INSERT**DATE: 1/12/00W.O.# 2603

TACH. \_\_\_\_\_

HOBBS 690.3SMOH 630.2TT 4021.7

The aircraft and/or component identified above was repaired and inspected in accordance with current Federal Air Regulations and was found airworthy for return to service. Pertinent details of the repair are on file at this agency.

Date: 1/12/00Signed [Signature]

Performed 100 hr. inspection per TCM service manual and FAR 43, apdx. D. Comp. test; #1 75, #2 66, #3 73, #4 70, #5 73, #6 72.

Exhaust system fuel system. induction system, and

DATE 19__	RECORDING TACH TIME	TODS/ FLIGHT	LOG BOOK ENTRY FOR N31C LEFT ENGINE	Repair
			OCTORBER 9, 2000	
			HOBBS 750.0 SMOH CURRANT HOBBSMINUS CORRECTIONS 4-28-97	
			AND 7-10-97 TOTAL CORRECTION MINUS 59.3 SMOH 690.7 TT 4081.4	
			ANNUAL INSPECTION COMPLETED THIS DATE IN ACCORDANCE WITH	
			FAR 43 APPENDIX D.	
			COMPRESSION OVER 80 PSI	
			AD 76-02-07 EFF DATE FEB 2, 1996 (PRESTOLITE ALTERNATOR)	
			N/A BY MODEL #	
			AD 2000-01-16 EFF DATE FEB 15, 2000 (EXHAUST INSPECTION)	
			SEE AIRFRAME LOG BOOK THIS DATE.	
			SPARK PLUGS RELACED WITH NEW RHB 32E.	
			OIL AND FILTER CHANGED, SERVICED WITH AEROSHELL 15/50W.	
			I CERTIFY THIS ENGINE HAS BEEN INSPECTED IN ACCORDANCE WITH	
			AN ANNUAL INSPECTION AND WAS FOUND TO BE AIRWORTHY.	
			RICHARD PATSHKOWSKI A&P/IA 1909051	
			<i>Richard Patshkowski</i>	

DATE 19__	RECORDING TACH TIME	TODAY'S FLIGHT	TOTAL TIME IN SERVICE	Description of Inspections, Tests, Repairs and Alterations Entries must be endorsed with Name, Rating and Certificate Number of Technician or Repair Facility. (See back pages for other specific entries.)
12-12-00	HOURS 786.5			OIL + FILTER CHANGED SERVICED WITH AEROSHELL 1550W RICK RICHMOND #1409051
2-27-2001	HOURS 818.0			OIL + FILTER CHANGED, SAMPLE TAKEN SERVICED WITH AEROSHELL 100W C/W #2000-B1-16, BY USUAL BNSF RICK RICHMOND #1409051

DATE 19__	RECORDING TACH TIME	TODAY'S FLIGHT	TOTAL TIME IN SERVICE	Description of Inspections, Tests, Repairs and Alterations Entries must be endorsed with Name, Rating and Certificate Number of Technician or Repair Facility. (See back pages for other specific entries.)
JUNE 19, 2001		HOBBS	863.0	OIL & FILTER CHANGED SPARK PLUGS WITH PERM SUCC 100W. RICHARD PATSHKOWSKI A&P 1909051
				LOG BOOK ENTRY FOR N31C LEFT ENGINE
				June 19, 2001 HOBBS 863.3
				INSTALLED ALL NEW SPARK PLUGS. REMOVED RIGHT MAG INSTALLED NEW CAPACITOR REINSTALLED MAG. TEST RUN OK.
				RICHARD PATSHKOWSKI A&P 1909051



DATE	RECORDING TACH	TODAY'S FLIGHT	TOTAL	Description of Inspections, Tests, Repairs and Alterations	Signature of Technician or Repair
19__				LOG BOOK ENTRY FOR N31C <del>RIGHT</del> <sup>LEFT</sup> ENGINE	
				JULY 3, 2001 HOBBS 867.8	
				INSTALLED TWO NEW FACTORY REMAN BLUE LABEL MAGNETOS AND A NEW SLICK IGNITION HARNESS.	
				ENGINE TEST RUN OK.	
				<i>Rich Patshkowski</i> RICHARD PATSHKOWSKI A&P 1909051	
7-17-2001	879.3			REMOVED WASTE GATE S/N KRO128 INSTALLED OVERHAULED UNIT FROM MAIN TURBO. S/N XA000269.	
				<i>Rich Patshkowski</i> A&P 1909051	

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Corporate Air Technology

1250 Aviation Avenue, Suite 125

San Jose, California 95110

CRS AU3R384L

December 7, 2001 N310

Tach:

Hobbs: 900.1

Cycles:

Total Time: 4048.5

ANNUAL INSPECTION COMPLETED, C/W AD 00-01-16 par(b) VISUAL INSP(next due@4098)  
C/W AD00-01-16 par(c)&(e) PRESS TEST&TAILPIPE INSP(next due@12-02/4143hrs),  
C/W TCM CSB97-9 CRANKCASE INSP(next due@4038hr), C/W TCM CSB98-1B VALVE INSP.  
CHANGED OIL AND FILTER, SERVICED WITH AEROSHELL 100W, CLEANED AND GAPPED PLUGS  
CLEANED FUEL NOZZLES, WASHED RAN AND LEAK CHECKED. COMPRESSION CHECK #1=66,  
#2=70, #3=66, #4=70, #5=66, #6=72

I certify that this LH ENGINE has been inspected in accordance with  
a ANNUAL inspection and was determined to be in airworthy condition.  
Work Order #: 18944

X

Corporate Air Technology

CRS AU3R384L

air

DATE 19__	RECORDING TACH TIME	TODAY'S FLIGHT	TOTAL TIME IN SERVICE	Description of Inspections, Tests, Repairs and Alterations Entries must be endorsed with Name, Rating and Certificate Number of Technician or Repair Facility. (See back pages for other specific entries.)
				<p>January 16, 2002 N31C Cessna 421C S/N: 421C0096 Tach: 903.7</p> <p style="text-align: right;">Mather Aviation LLC Mather Airport FAA CRS No. PCPR439B WO# 406222</p> <p style="text-align: center;">AFTT: 4052.9</p> <p style="text-align: center;">This is a permanent part of the Left Engine records.</p> <ol style="list-style-type: none"> <li>C/W differential compression test 1) 70/80, 2) 66/80, 3) 70/80, 4) 66/80, 5) 65/80, 6) 70/80.</li> <li>Opened and inspected the engine oil filter, no defects noted. New oil filter installed and safetied.</li> </ol> <p>Technician: L. Olivares, S. Heller This aircraft is approved for return to service only with respect to the work performed.</p> <p>Inspector: <u><i>John Verderber</i></u> John Verderber CRS# PCPR439B</p>

DATE

19

## Corporate Air Technology

1250 Aviation Avenue, Suite 125

San Jose, California 95110

ORF A03R384L

March 1, 2002 NS10

Tach:

Hrbb: 905.5

Cycles:

Total Time: 4056.9

REPLACED ALL FLAMABLE FLUID CARRYING HOSES WITH NEW HOSES FROM AIR-PRO INC.  
HOSE KIT # C4210 (HOSES DATED 2-22-02 NEXT DUE 2-22-07), SECURED ALL HOSES  
WITH CLAMPS AND OR TY-WRAP AS NECESSARY, WASHED ENGINE FAN AND LEAK CHECKED.

Repair

The aircraft, airframe, aircraft engine, propeller, or appliance identified above was repaired and inspected in accordance with current regulations of the Federal Aviation Administration and is approved for return to service. Pertinent details of the repairs are on file at this repair station under: Work Order #: 13417

X

Corporate Air Technology

ORF A03R384L

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Meter: 909.2

WO# 406379

### Technician or Repair

This is a permanent part of the Left Engine records.

1. Drained oil and changed filter. Took oil sample. Opened oil filter, no defects noted. Serviced with Aeroshell 15W50 Oil.
2. C/W fuel flow set up in accordance with SID 97-3 . Adjusted as required.
3. Installed new oil cap retaining cable.
4. Secured oil breather line and canister form chafing, by installation of new mount clamp.
5. Removed fuel nozzles and cleaned. Reinstalled with new gaskets and O rings. Installed 4 new upper deck reference risers on the engine with new seals.
6. Removed intercooler and cleaned RTV off the mating surface. Installed new intercooler O ring and reinstalled.

Technician: C. Jones, M. Rotar

This aircraft is approved for return to service only with respect to the work performed.

**Inspector:**

John Verderber  
CRS# PCPR439B

DATE	RECORDING TACH TIME	DESCRIPTION	TECHNICIAN
19		<p>May 1, 2002  N31C Cessna 421C  S/N: 414A-0825 421C0096 R  A.F.T.T: 4059.3 Meter: 910.9 ETSO: 851.6 WO#: 406409</p> <p>This is a permanent part of the Left Engine Records.</p> <ol style="list-style-type: none"> <li>1. Complied with an Annual Inspection as per Mather Aviation LLC Checklist MA100ME, and FAR 43 Appendix D.</li> <li>2. Complied with Cylinder differential compression test I/A/W TCM SB M84-15: #1) 67/80, #2) 61/80, #3) 68/80, #4) 60/80, #5) 70/80, #6) 63/80.</li> <li>3. No oil change at this time</li> <li>4. Installed serviceable exhaust wye, and gaskets. Installed new heat shield clamp.</li> <li>5. Removed waste gate bellows and installed new gaskets. Reinstalled bellows and safetied.</li> <li>6. C/W pressure test of the exhaust system after reassembly.</li> <li>7. Repositioned fuel flow transducer to prevent chafing.</li> <li>8. Installed new clamp on the lower fire detector.</li> <li>9. Installed an overhauled starter adapter P/N 635050A8 S/N 23271, with a new mount gasket.</li> <li>10. Installed overhauled starter, P/N 646275-1RX S/N A-165697.</li> <li>11. Tightened rear fitting on the oil filter adapter. No leaks noted at run up.</li> <li>12. Secured wire bundles and hoses to prevent chafing as required.</li> <li>13. Safetied turbo controller screws.</li> </ol>	<p>Mather Aviation LLC  Mather Airport  FAA CRS No. PCPR439B</p>

DATE 19__	RECORDING TACH TIME	TODAY'S	TOTAL	Description of Inspection	Technician or Repair
				14. Installed serviceable fuel pump P/N 646210-3 S/N A039111BR from Western Skyways FAA CRS WS9R	
				15. Rigged propeller and mixture controls to math	
				16. Completed turbo controller set up and fuel pressure set up as per TCM Service Bulletin 97-3A	
				Technician: D. Christensen, D. DuMond, R. Vaughan, M. Rotar	
				This aircraft is approved for return to service only with respect to the work performed.	
				Inspector: <u>John Verderber</u>	
				CRS# PCPR439B	
				May 1, 2002	
				I certify that this engine has been inspected in accordance with an ANNUAL	
				INSPECTION and was determined to be in an airworthy condition, and is	
				approved for return to service.	
				Inspector: <u>John Verderber</u>	
				CRS # PCPR439B	







DATE 19__	RECORDING TACH TIME	TODAY'S FLIGHT	TOTAL TIME IN SERVICE

### Description of Inspections, Tests, Repairs and Alterations

Entries must be endorsed with Name, Rating and Certificate Number of Technician or Repair Facility. (See back pages for other specific entries.)

**CUTTER**  
ALBUQUERQUE

AVIATION, INC.

FAA Repair Station GMZ2383E  
505 842-4184

REG # N31C

S/N 0096

HM 36.6

TACH N/A

DATE 5/22/03

W/O M7981

AFTT N/A

1. Installed overhauled cylinder L/H engine number one location, S/N AT-14649.
2. Removed and inspected starter adapter, installed with new starter adapter gasket.
3. Installed new gasket for oil filter adapter.
4. Changed oil and oil filter, serviced engine with Aershell 15w/50 oil to 12 qts. L/H engine.
5. Installed new L/H engine tach/gen drive seal.
6. Installed overhauled tach/gen P/N 22A667 S/N AT14649. L/H engine.
7. Installed new L/H HYD pump drive garloc seal.
8. Operational and leak checked.

This engine and/or component is certified to be airworthy for return to service with respect to the work performed.

John Cekala

SIGNATURE:

Page 1 of 1

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### Technician or Repair

1. Complied with an Annual Inspection as per Mather Aviation LLC Checklist MA100ME, and FAR 43 Appendix D.
2. Complied with Cylinder differential compression test I/A/W TCM SB03-3: #1) 66/80, #2) 69/80, #3) 64/80, #4) 67/80, #5) 69/80, #6) 69/80.
3. Drained oil and changed filter. Serviced with Acrosshell 15W50 oil. Took oil sample and inspected removed filter. No defects noted.
4. Replaced left magneto P lead ring terminal. And repaired the retard wire ring terminal and ground attachment.
5. Installed doubler on the forward left engine baffle.
6. Replaced all injector O rings and rubber washers.
7. Replaced air / oil separator hose and rerouted wire chaffing the hose.
8. Stop drilled small crack in the turbo Wye heat shield..



DATE	RECORDING TACH TIME	TODAY'S FLIGHT	TOTAL TIME IN SERVICE
19__			

**Description of Inspections, Tests, Repairs and Alterations**  
 Entries must be endorsed with Name, Rating and Certificate Number of Technician or Repair Facility. (See back pages for other specific entries.)

**CUTTER** AVIATION, INC.  
 ALBUQUERQUE

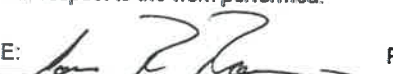
FAA Repair Station GMZ2383E  
 505 842-4184

REG # N31C  
 S/N 421C0096  
 HM 36.5  
 TACH N/A

DATE 05/23/03  
 W/O P0306  
 AFTT N/A

1. Installed over-hauled Tach generator on L/H engine PN MS25038-2, SN 106599.  
 This aircraft and / or component is certified to be airworthy for return to service with respect to the work performed.

Jose R. Ramos

SIGNATURE: 

Page 1 of 1








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## **SAS** *Spectrum Aircraft Services*

9628 West Terminal Drive • San Antonio, Tx 78216

(210) 834-3818 ext. 5288 • 1-800-827-3818 ext. 5288

SAT (210) 834-3888

AD-93-10-02 C/W At Overhaul 4-25-96

AD-91-19-03 N/A Part NO.

AD-88-03-06 N/A Part NO.

AD-87-04-05 N/A Part NO.

AD-86-13-04 N/A Part NO. & Serial NO. & New Rebarrel Cylinder Assembly

AD-82-13-01 P/C/W Bendix Mag - 1200 Series

AD-81-24-06 N/A Serial NO. - Fuel Pump

AD-80-25-06R1 C/W at Overhaul, replaced Thrust Washers & End Play  
within New Dimensions.

AD-80-09-11 N/A New Starter Drive Assembly 4-25-96

AD-79-05-09 P/C/W Checked 4-25-96

AD-78-09-07-R3 N/A Model NO.

AD-77-13-22 N/A Model NO. & Serial NO. & Heavy Case installed & case  
Overhauled 4-25-96

AD-75-09-13 N/A Model & Serial NO.

AD-74-26-09 P/C/W Bendix Mag

**SAS** *Spectrum Aircraft Serv.*

DATE

19 \_\_\_\_

9628 West Terminal Drive • Sea Airway, Inc.

(210) 834-2818 ext. 8222 • 1-800-837-2111 ext. 42

FAX (210) 834-2658

SBM78-6 C/W at Cylinder Overhaul  
SBM77-14-R1 N/A Model  
SBM77-9 P/C/W  
SBM76-12 N/A No. Chrome Cylinders  
SBM76-7 N/A Model  
SBM76-4 C/W at Overhaul 4-25-69  
SBM75-30 C/W at Overhaul & Every 100 Hours  
SBM72-17 C/W at Overhaul All 6 Rods Wt. 1173 Grams  
SBM71-20 N/A Model  
SBM70-3 N/A Model  
SBM67-5 N/A Model of Engine  
SB93-8 C/W at Overhaul

(3 of 3)

DATE

19

## **SAS** Spectrum Aircraft Services

9628 West Terminal Drive • San Antonio, Tx 78216

(210) 824-2818 ext. 8283 • 1-800-827-3818 ext. 8283

FAX (210) 824-0888

SBM88-8 C/W at Engine Build-up 4-25-96

SSBM88-7 C/W at Engine run-up

SBM87-11 C/W 100% Replacement Parts

SBM87-7 C/W at this time 4-25-96

SBM87-6 N/A "N" Model ONLY

SBM86-18 C/W Torque Limits New SB92-15 Torque Limits

SSBM86-7 N/A New Rebarrel Cylinder 4-25-96 & Serial No.

SBM85-18 C/W at Overhaul of Cylinders.

SBM85-11 C/W at Overhaul Replaced Complete Starter Drive Assembly.

SBM82-3 N/A Part No.

SBM81-27 N/A Superseded by Later Bulletin

SBM81-25 C/W at Engine Replacement Torque to 8.3 to 9.2 ft. lbs.

SBM81-15 Prestolite Alternators Installed

SBM80-9 N/A Model

(2 of 3)



DATE

19

4/26

## **SAS** Spectrum Aircraft Services

9623 West Terminal Drive • San Antonio, Tx 78216

(210) 824-2818 ext. 5288 • 1-800-827-2818 ext. 5233

FAX (210) 824-9888

DATE: 4/25/96

LEFT ENGINE: S/N 610038

SB-94-4 C/W 4-25-96  
SB-92-9 C/W Replaced Nuts & New Torque  
SBM91-9 C/W New Lubrications used  
SBM91-6 C/W New Rebarrel Cylinder Assembly  
SBM91-7 N/A Standard Cylinders  
SBM90-17 N/A Case Overhauled 4-25-96  
SBM90-16 C/W 4-25-96 7th Stud Improvement Installed Kit #ALT01800  
SBM90-15 N/A Serial No.  
SBM90-13 Valves Changed 4-25-96  
SBM90-12 Counter Weight Change C/W  
SBM89-17 C/W New Rebarrel Cylinder Assembly 4-25-96  
SBM89-7 C/W at Engine Installation  
SBM89-5 C/W Drive Coupling 646655  
SBM88-11 C/W Later Ring Gap Information

(1 of 3)

DATE

18

**SAS** *Spectrum Aircraft Services*

9623 West Terminal Drive • San Antonio, Tx 78216

(210) 824-2313 ext. 5233 • 1-800-227-2313 ext. 5233

FAX (210) 824-2858

DATE: 4/27/96

LEFT ENGINE

TT:

Found Controller inoperable - exchanged for overhauled  
unit...P/N 470836-3...S/N N1R0185.....

LESLIE CECIL KILPATRICK  
AP2179644 IA

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