

# Autopilots Central, Inc.

Hangar 23, Tulsa International Airport - Tulsa, OK 74115  
P.O. Box 582108 - Tulsa, OK 74158  
(918)836-6418 - Fax (918)832-0136  
FAA CRS CM2R747K

## Invoice

Work Order: MA02-00135

Opened: 5/7/2002

Closed: 5/17/2002

Department: Maintenance

**PAID**  
MAY 18 2002  
B/c

Sold To: Bob Rumachik

Tulsa, OK 74133

**Aircraft Number:** N421D      **Type:** 421      **S/N:** 421-0045

**Total Time:** 3,532.0      **Hobbs Time:** 1,852.6      **Tach Time:** 0.0

Eng#	Type	S/N	Time	Cycles	Prop Type	Prop S/N	Prop Time
1			1,548.7				907.2
2			1,078.0				907.2

**Discrepancy: 1**

**Problem:**  
Maintenance squawks  
**Action Taken:**  
See items 4-10

Charges This Item:      Total For This Discrepancy:      N/C

**Discrepancy: 2**

**Problem:**  
AMR 350 Audio/Marker panel S/N 2723  
Marker inop.  
**Action Taken:**  
Lamps test - No audio or lamps on marker signals. Troubleshoot found L.O inop. Replaced L.O. crystal to restore oscillator function. Bench check and ramp check ok.

Charges This Item:      1.00 Hours @      73.00      73.00

Part Number	Description	Credit	Quantity	Units	List Price	Disc	Unit Price	Extended
289-7260-020	85.7 Mhz Crystal		1.00	Each	58.730		58.730	58.73
Total For This Discrepancy:								131.73

**Discrepancy: 3**

**Problem:**  
VIR 351 Nav Receiver S/N 4300  
Bench test. - #1 Nav out of calibration  
**Action Taken:**  
Aligned VOR/LOC connector IAW mfgs. Service Manual. Bench check and ramp check.

Charges This Item:      1.00 Hours @      73.00      73.00  
Total For This Discrepancy:      73.00

**Discrepancy: 4**

**Problem:**  
replace RH engine exhaust pipe pn K9910379-16  
**Action Taken:**  
Installed sn 102709 pipe.

Charges This Item:      1.50 Hours @      63.00      94.50  
Total For This Discrepancy:      94.50

**Discrepancy: 5**

**Problem:**

replace missing exhaust hanger pn 5050156-4 to RH eng.

**Action Taken:**

CW.

Charges This Item:

0.50 Hours @	63.00	31.50
Total For This Discrepancy:		31.50

**Discrepancy: 6**

**Problem:**

Install new rudder rear spar pn 5133000-122.  
ballance rudder.

**Action Taken:**

CW.

Charges This Item:

19.60 Hours @	63.00	1,234.80
Total For This Discrepancy:		1,234.80

**Discrepancy: 7**

**Problem:**

CW MSB 94-4D by installing new EQ6642 starter adapter kit and starter drive busing pn 654472 to RH engine.

**Action Taken:**

CW.

Charges This Item:

18.60 Hours @	63.00	1,171.80
Total For This Discrepancy:		1,171.80

**Discrepancy: 8**

**Problem:**

Install new wire to strob light on rudder.

**Action Taken:**

CW.

Charges This Item:

0.30 Hours @	63.00	18.90
Total For This Discrepancy:		18.90

**Discrepancy: 9**

**Problem:**

Uncowl both engines and wash both, and inspect for leaks.

**Action Taken:**

CW.

Charges This Item:

6.00 Hours @	63.00	378.00
Total For This Discrepancy:		378.00

**Discrepancy: 10**

**Problem:**

Remove induction manifold from LH eng. to inspect for oil leaks.

**Action Taken:**

Found 3/4in. crack at case half bolt under induction manifold . Retorqed case half bolt . Sealed case halves.

Charges This Item:

2.70 Hours @	63.00	170.10
Total For This Discrepancy:		170.10

Part Number	Description	Credit	Quantity	Units	List Price	Disc	Unit Price	Extended
10-157135	Plug		1.00	Each	1.990		1.990	1.99
1298119-4	Spring, Exhaust		6.00	Each	3.330		3.330	19.98
25102	Seal, Vacuum Pump Adapt(Garloc)		1.00	Each	6.350		6.350	6.35
5050156-3	Support		1.00	Each	79.900		79.900	79.90
	Freight		1.00				7.310	7.31
5133000-122	Spar, AFT		1.00	Each	155.000		155.000	155.00
535823	Gasket, Oil Filler Cap		1.00	Each	0.840		0.840	0.84
600-001-5/16	Lock "O" Seal, 5/16"		14.00	Each	0.900		0.900	12.60

654472	Bushing		1.00	Each	68.380		68.380	68.38
655269	Bushing, Mag		1.00	Each	3.020		3.020	3.02
AN310C3	Nut		6.00	Each	2.050		2.050	12.30
AN315-4R	Nut		1.00	Each	0.270		0.270	0.27
AN320-4	Nut		2.00	Each	0.550		0.550	1.10
AN3C-15	Bolt		3.00	Each	2.690		2.690	8.07
AN3C13	Bolt		3.00	Each	1.540		1.540	4.62
AN4-4	Bolt		2.00	Each	1.000		1.000	2.00
AN960C10	Washer		15.00	Each	0.080		0.080	1.20
EQ6642-FR	Kit, Starter Adapter		1.00	Each	2,206.390		2,206.390	2,206.39
S/N: C24302								
	Freight		1.00				67.370	67.37
K9910379-16DEV3	RH Crossover (SS)		1.00	Each	562.000		562.000	562.00
S/N: 102709/P28799								
	Freight		1.00				13.210	13.21
MACH 4	BRAKE DEGREASER		4.00		12.500		12.500	50.00
MS24665-155	Cotter Pin, Stainless Steel		6.00	Each	0.100		0.100	0.60
MS9021-252	O-Ring		1.00	Each	6.960		6.960	6.96
NAS43HT4-8	Spacer		1.00	Each	1.700		1.700	1.70

**Miscellaneous Charges:**

Misc Supplies: 64.91

**Summary:**

Total Parts:	3,264.00	Total Freight:	87.89
Misc Supplies:	64.91	Total Labor - 51.20 Hours:	3,245.60

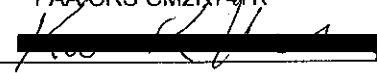
**Totals:**

<b>SubTotal:</b>	<b>6,662.40</b>
<b>OK Sales Tax:</b>	<b>258.90</b>
<b>Balance Due:</b>	<b>6,921.30</b>

Terms: C.O.D.

The articles and/or work hereon described is/are certified  
airworthy (unless otherwise specified).  
Autopilots Central, Inc.  
FAA CRS CM2R747K

Authorized Signature \_\_\_\_\_





# DISCREPANCY REPORT

Work Order No. MA02-00135 Aircraft 421-0045 H.M. 195216 Tach \_\_\_\_\_ N 421D Page 1/2

Time Clock	Total Hours	Mech. No.	Auth	Discrepancy & By	Remarks	Action Taken & By	Insp.
5/14 12.0 OFF	1.0	232	NC	REPLACE FWD EXHAUST PIPE ON RH ENGINE BELOW THE ALTERNATOR		INSTALLED NEW PIPE -	QK
11.0 ON			1.				
5/14 15.0 OFF	1.5	232	AUTH	P/N IS K9910379-16 DEV 3	S/N - 102709	<del>INSTALLED NEW PIPE</del>	
13.5 ON			NO				
OFF	1.5		NO	P/N IS K9910379-16 DEV 3	S/N - 102709	<del>INSTALLED NEW PIPE</del>	
ON			NO				
OFF	1.5		AUTH	P/N IS K9910379-16 DEV 3	S/N - 102709	<del>INSTALLED NEW PIPE</del>	
ON			NO				
5/14 13.5 OFF	1.5	232	NO	INSTALL MISSING LINK FROM THE ALTERNATOR TO EXH PIPE ON THE RH ENGINE	P/N 5050156-4	INSTALLED NEW PARTS -	QK
13.0 ON			2.				
OFF	1.5		AUTH	INSTALL MISSING LINK FROM THE ALTERNATOR TO EXH PIPE ON THE RH ENGINE	P/N 5050156-4	<del>INSTALLED NEW PARTS</del>	QK
ON			NO				
OFF	1.5		NO	INSTALL MISSING LINK FROM THE ALTERNATOR TO EXH PIPE ON THE RH ENGINE	P/N 5050156-4	<del>INSTALLED NEW PARTS</del>	QK
ON			NO				
OFF	1.5		AUTH	INSTALL MISSING LINK FROM THE ALTERNATOR TO EXH PIPE ON THE RH ENGINE	P/N 5050156-4	<del>INSTALLED NEW PARTS</del>	QK
ON			NO				
5/18 17.4 OFF	4.0	253	NO	REMOVE RUDDER AND REPLACE THE REAR SPAR. P/N 5133000-122	Removed & Replaced rudder - Rear Spar Rebalanced Rudder Checked trim tab rigging	<del>INSTALLED NEW PARTS</del>	KH
13.4 ON			3.				
OFF	4.0	253	AUTH	REMOVE RUDDER AND REPLACE THE REAR SPAR. P/N 5133000-122	Removed & Replaced rudder - Rear Spar Rebalanced Rudder Checked trim tab rigging	<del>INSTALLED NEW PARTS</del>	KH
17.0 ON			5.				
OFF	4.0	253	NO	REMOVE RUDDER AND REPLACE THE REAR SPAR. P/N 5133000-122	Removed & Replaced rudder - Rear Spar Rebalanced Rudder Checked trim tab rigging	<del>INSTALLED NEW PARTS</del>	KH
ON			15.1				
OFF	4.0	253	AUTH	REMOVE RUDDER AND REPLACE THE REAR SPAR. P/N 5133000-122	Removed & Replaced rudder - Rear Spar Rebalanced Rudder Checked trim tab rigging	<del>INSTALLED NEW PARTS</del>	KH
ON			19.6				
5/19 1.0 OFF	1.0	232	NO	REMOVE RH ENGINE STARTER ADAPTER FOR INSER. IPM TYP. M8B 74-100	15.1 EQ 6642 INSTALLED EQ 6642 KIT TO ENG INST NEW SEAL IN ADAPTER PADS Retain marks (KH)	<del>INSTALLED NEW PARTS</del>	KH
9.0 ON			4.				
5/19 13.5 OFF	1.0	232	AUTH	REMOVE RH ENGINE STARTER ADAPTER FOR INSER. IPM TYP. M8B 74-100	15.1 EQ 6642 INSTALLED EQ 6642 KIT TO ENG INST NEW SEAL IN ADAPTER PADS Retain marks (KH)	<del>INSTALLED NEW PARTS</del>	KH
13.0 ON			1.				

OFF  
ON  
Mach  
No  
Clock  
Time Record

# DISCREPANCY REPORT

Work Order No. MAA-2-0133 Aircraft 421-0045 H.M. \_\_\_\_\_ Tach \_\_\_\_\_ N 4213 Page 272

Time Clock	Total Hours	Mech. No.	Discrepancy & By	Remarks	Action Taken & By	Insp.
5/15 12.0 OFF	1.0	180	NC 5.	REMOVE STARTER ADAPTER BEARING & INSTALL NEW BUSHING P/N 654471 ON <u>RH ENG</u>	INSTALLED BUSHING	
11.8 ON						
OFF						
ON						
OFF						
ON						
5/16 10.5 OFF	1.5	180	NO	WASH DOWN BOTH ENGINES	WAS ABO & RAN ENGINES AFTER STARTER ADAPTER & BUSHING REPLACEMENT FOUND CRACKED ENGR. REPLACED FILLER NECK GASKET ON CR. RERAN AND STILL LEAKS	
9.0 ON						
15.0 OFF						
17.0 ON	180	AUTH				
6.0 OFF	4.2	180	NO	MOTOR BEARING PTT BUT DID NOT WORK ON THE TEST FLIGHT	COULDN'T ENG	
ON						
5/16 9.1 OFF	2.7	180	NO	#1 NAV VOT IS 5° OFF ON SOUTH	CW by AVIONIC. RALPH VERBORN	
ON						
5/14 13.5 OFF	1.3	180	NO	Rudder Stroke light wiring has bad section.	Replaced section of wire for rudder	
13.0 ON						
5/16 18.2 OFF	2.7	180	NO	LT ENG OIL LEAK AT #6-10 BOLTS UNDER SPIDER JUST AFT OF FILLER	RODDED LOCK WASHERS TO BOLTS & FASTWELDED TO THE BACKBONE	
15.5 ON						
OFF						
ON				STOVED LEAK BUT NOT TOTALLY		

ON OFF

[Signature]

SEE AVIONICS WIREWORK



# Autopilots Central, Inc.

Hangar 23, Tulsa International Airport - Tulsa, OK 74115

P.O. Box 582108 - Tulsa, OK 74158

(918)836-6418 - Fax (918)832-0136

FAA CRS CM2R747K

Invoice

Work Order: MA02-00159

Opened: 6/ 4/2002

Acct Number: 671-8136

Closed: 6/ 4/2002

Department: Maintenance

WO FILE COPY

PAID  
JUN 10 2002

Sold To: Bob Rumachik

Tulsa, OK 74133

3634

### General Comments:

Contact is Bob at [REDACTED]

Aircraft Number:

N421D

Type: 421

S/N: 421-0045

Total Time: 3,532.0

Hobbs Time: 1,853.1

Tach Time: 0.0

### Discrepancy: 1

#### Problem:

Oil leaks on the left engine.

#### Action Taken:

Uncowled the engine and inspected the oil on the cowling and engine areas. Washed down the cowling and engine. Run up to check oil leaks sources. Found minor oil seepage at the oil filler neck, # 4 cylinder push rod seals, and oil sump at the front area. Recommend washing down the engine at each oil change. Installed the engine cowling.

Charges This Item:

1.50 Hours @ 63.00 94.50

Total For This Discrepancy: 94.50

### Discrepancy: 2

#### Problem:

Oil leaks on the right engine.

#### Action Taken:

Removed the cowling and inspected the engine for oil leaks. Washed down the engine and run up to inspect for oil leaks. Found minor oil leaks in the following areas; the engine data plate rivets, # 5 cylinder push rod seals, and the oil filler neck. These are minor leaks and do not recommend any repairs at this time except to wash down the engine at each oil change.

Installed an airspeed indicator to the engine crankcase to check the internal case pressure iaw TCM SB#M89-9. TCM allows a maximum pressure of 4 inches of water pressure which is 90MPH on a airspeed indicator. Your engine had 115 mph at full power. We disconnected the breather air oil separator and the pressure dropped to and stabilized at 90 MPH. Washed down the engine after running the case pressure tests.

Charges This Item:

3.20 Hours @ 63.00 201.60

Total For This Discrepancy: 201.60

### Discrepancy: 3

#### Problem:

The airconditioner was not cooling when the engines were run up for their inspection.

#### Action Taken:

Opened up the rear cabin bulkhead door to get access to the air conditioner service ports. Connected the gages and operated the system. Found the compressor electric motor was not operating. Found the 70 amp circuit breaker was blown. Reset the circuit breaker and the motor did work. Found the head pressure was going to high above the limits. Found the condenser blower motor was not running causing the excessive high pressure. Found the inline fuse for the condenser blower was blown. Replaced the fuse and operated the system. Installed fluorescent oil dye in the freon system to detect leaks. Operated the air conditioner system and found the pressures were in the ball park and the system cooled ok. Note: Your condenser blower motor may need to be replaced if its fuse continues to blow. We operated the system for 30 minutes with no problems.

Charges This Item:

1.50 Hours @ 63.00 94.50

Total For This Discrepancy: 94.50

**Discrepancy: 4**

**Problem:**

The tire inflation appears to be low.

**Action Taken:**

Serviced the tire pressures. Nose should be 32 psi and the mains should be 65 psi.

Charges This Item:

0.20 Hours @ 63.00 12.60

Total For This Discrepancy: 12.60

Part Number	Description	Credit	Quantity	Units	List Price	Disc	Unit Price	Extended
765-2664	Dye, A/C Leak Check		1.00	Each	10.490		10.490	10.49
AGC15	Fuse, 15 Amp		1.00	Each	1.500		1.500	1.50

**Miscellaneous Charges:**

Misc Supplies: 8.06

**Summary:**

Total Parts:	11.99	Misc Supplies:	8.06
Total Labor - 6.40 Hours:	403.20		

**Totals:**

<b>SubTotal:</b>	<b>423.25</b>
<b>OK Sales Tax:</b>	<b>1.59</b>
<b>Balance Due:</b>	<b>424.84</b>

Terms: C.O.D.

The articles and/or work hereon described is/are certified  
 airworthy (unless otherwise specified).  
 Autopilots Central, Inc.  
 FAA CRS CM2R747K

Authorized Signature

*Thank you!*



# DISCREPANCY REPORT

Work Order No. MA02-00159 Aircraft 421 H.M. 1853.1 Tach \_\_\_\_\_ N 421D Page \_\_\_\_\_

Time Clock	Total Hours	Mech. No.	Discrepancy & By	Remarks	Action Taken & By	Insp.
6/12 OFF		180	NO	OIL LEAKS	OIL	KE
4 8.0 ON				INSPECT - BOTH		
6/13 OFF		180	AUTH	ENGINES		
6/13 ON						
OFF			NO	RT ENG. OIL LEAKS		
ON			2	100TA PLAT RIVETS SEEPING		
OFF			AUTH	2. #5 CYL EXHAUST PUSH TUBE SPRING SEEP	Noted	KE
ON				3. FILLER NEAR OIL RISTONK MIRROR		
OFF			NO	RT ENG #5 CYL POSSIBLE CRACK.		
ON			3	AT NOZZLE AREA.	noted	KE
OFF			AUTH	ALSO #1 CYL SUPERHEATS.		
ON						
OFF			NO	LT ENG. OIL LEAKS.		
ON			4	1. FILLER NEAR MOST	Noted	KE
OFF			AUTH	2. #4 CYL PUSH TUBE MOST.		
ON				3. SAMP SACKET MOST		
OFF			NO	BACK BOND CLEAN AFTER SEALING	Noted	KE
ON			5			
OFF			AUTH			
ON						
OFF			NO	OK RT EN CRANKCASE PRESSURE	Ola	KE
ON			6	140 MPH STABILIZES AT 115MP		
OFF			AUTH	DISCONNECTED 100MP STABILIZES 90 MPH		
ON						
OFF		1.0	NO	OK A/C FOR SERVICE	Found FUSE BLOWN ON CONDENSER FAN PRESSURES TO BLOW 170 AMP	KE
ON			7	PUT FLORESANT DYE IN SYST FOR FUTURE		
OFF			AUTH	LEAK A/C. LI A		
ON						



Sold To: Bob Rumachik  
7731 S. Memorial  
Apt. 11302  
Tulsa, OK 74133

Work Order: MA02-00159  
Acct Number: 671-8136  
Department: Maintenance

Opened: 6/4/2002  
Closed:

**General Comments:**

Contact is Bob at [REDACTED]

<b>Aircraft Number:</b>	N421D	<b>Type:</b>	421	<b>S/N:</b>	421-0045		
	Total Time: 3,532.0		Hobbs Time: 1,853.1		Tach Time: 0.0		
<b>Eng#</b>	<b>Type</b>	<b>S/N</b>	<b>Time</b>	<b>Cycles</b>	<b>Prop Type</b>	<b>Prop S/N</b>	<b>Prop Time</b>
1			1,548.7				907.2
2			1,078.0				907.2

**Discrepancy: 1**

**Problem:**

Oil leaks on the left engine.

Date Completed: 6/4/02	Completed By Technician: [REDACTED]	Accepted By Inspector: [Signature]
---------------------------	--	---------------------------------------

**Instructions:**

Find sources and advise Ralph.

OW  
SEE ATTACHED CARD.

Charges This Item:

Total For This Discrepancy:

N/C

**Discrepancy: 2**

**Problem:**

Oil leaks on the right engine.


Date Completed: 6/4/02	Completed By Technician: [REDACTED]	Accepted By Inspector: [Signature]
---------------------------	--	---------------------------------------

26 45 507

**Instructions:**

Find oil leak sources and advise Ralph.

APPEARS TO BE MOSTLY RESIDUE IN COALINE  
SPREADSHEET CARD FOR ITEMS.

CW  


Charges This Item:

Total For This Discrepancy:

N/C

**Summary:**

**Totals:**

SubTotal:

0.00

Balance Due:

0.00



# Autopilots Central, Inc.

Hangar 23, Tulsa International Airport - Tulsa, OK 74115  
P.O. Box 582108 - Tulsa, OK 74158  
(918)836-6418 - Fax (918)832-0136  
FAA CRS CM2R747K

## Invoice

Work Order: MA02-00202  
Acct Number: 671-8136  
Department: Maintenance

Opened: 7/9/2002  
Closed: 7/11/2002

**PAID**  
JUL 29 2002

Sold To: Bob Rumachik

Tulsa, OK 74133

**Aircraft Number:** N421D      **Type:** 421      **S/N:** 421-0045

Eng#	Type	S/N	Total Time:	0.0	Hobbs Time:	1,867.2	Tach Time:	0.0
			Time	Cycles	Prop Type	Prop S/N	Prop Time	
1								
2								

**Discrepancy: 1**

**Problem:**  
LH brake soft.

**Action Taken:**  
Bleed brake and serviced the brake master cylinder.

Charges This Item:	1.00 Hours @	63.00	63.00
Total For This Discrepancy:			63.00

**Discrepancy: 2**

**Problem:**  
Change oil and filter LH engine, service with AS 15W50.

**Action Taken:**  
Changed oil and filter, inspected core oil filter and found normal.

Charges This Item:	1.50 Hours @	63.00	94.50
Total For This Discrepancy:			94.50

**Discrepancy: 3**

**Problem:**  
Change oil and filter, RH engine service with AS15W50.  
CW soap.

**Action Taken:**  
Changed oil and filter, and inspected core oil filter, found normal.  
SOAP sample mailed 7-8-02.

Charges This Item:	1.50 Hours @	63.00	94.50
Total For This Discrepancy:			94.50

**Discrepancy: 4**

**Problem:**  
CW 50hr inspection.

**Action Taken:**

1. Top off brake reservoirs.
2. Service nose and main tire pressures.
3. Visual insp. of nose and main tires for wear.
4. Visual inspection of brake disc's and linings.
5. Inspect water level in the battery cells.
6. Insp. of all exterior lights for operation.

Posted  
By  
DKS

7. Insp. of all interior lights for operation.
8. Insp. of the propeller deice boots for heating.
9. Insp. of pitot tubes for heating.
10. Insp. of the static ports for heating
11. Insp. of the stall vane for heating.
12. Clean pilots and copilots windshields.
13. Check surface deice boots for inflation on a/c run up.
14. Check spoilers for operation on a/c run up
15. Washed both engine and MLG.

Charges This Item:	2.00 Hours @ 63.00	126.00
	<b>Total For This Discrepancy:</b>	<b>126.00</b>

**Discrepancy: 5**

**Problem:**

Pick up and return aircraft to hanger 12.

**Action Taken:**

Aircraft delivered to hanger 12, 10:00 7-11-02.

Charges This Item:		<b>Total For This Discrepancy:</b>	N/C
--------------------	--	------------------------------------	-----

**Discrepancy: 6**

**Problem:**

CW AD 2000-01-16 IAW b. by visual inspection of L&R exhaust, due ea. 50hr.

**Action Taken:**

Inspected L & R exhaust determine airworthy

Charges This Item:	1.00 Hours @ 63.00	63.00
	<b>Total For This Discrepancy:</b>	<b>63.00</b>

**Discrepancy: 7**

**Problem:**

Exhust leak at LH engine wastegate inlet.

**Action Taken:**

Repositioned LH engine waistgate inlet clamp to stop leak.

Charges This Item:	0.50 Hours @ 63.00	31.50
	<b>Total For This Discrepancy:</b>	<b>31.50</b>

**Discrepancy: 8**

**Problem:**

1/4 in. holes in intercooler inlet, and fuel pump blast tube SCAT ducts.

**Action Taken:**

Applied RTV to 1/4in. holes in intercooler and fuel pump SCAT.

Charges This Item:	0.20 Hours @ 63.00	12.60
	<b>Total For This Discrepancy:</b>	<b>12.60</b>

**Discrepancy: 9**

**Problem:**

LH lower nav light inop.

**Action Taken:**

Cleaned socket and secured wiring.

Charges This Item:	0.40 Hours @ 63.00	25.20
	<b>Total For This Discrepancy:</b>	<b>25.20</b>

**Discrepancy: 10**

**Problem:**

Skynav 5000 GPS S/N4A000344  
 Dead - Does not light up.

**Action Taken:**

Failed to power up on bench. Troubleshoot and replaced internal fuse to restore functions. Returned to aircraft and verified power up state.

**Autopilots Central, Inc.**  
Hangar 23, Tulsa International Airport - Tulsa, OK 74115

Charges This Item:	1.00 Hours @ 73.00	73.00
	<b>Total For This Discrepancy:</b>	<b>73.00</b>

**Discrepancy: 11**

**Problem:**

LH engine, LH magneto hot.

**Action Taken:**

Removed LH magneto for repair by Quaility Aircraft Accessories.  
Inspected P leads for shorts to ground and found normal.  
Cut LH P lead shielding back 6 in. and spliced on new wire to shielding to ground.  
Run up normal.

Charges This Item:	2.50 Hours @ 63.00	157.50
	<b>Total For This Discrepancy:</b>	<b>157.50</b>

**Discrepancy: 12**

**Problem:**

Sent out the magneto 10-349220-4 Bendix Magneto S/N: 8306078 for repair.

**Action Taken:**

Sublet Service Completed: 7/10/2002  
Description: Repair  
Performed By: Quality Aircraft Accessories, Inc.

Charges This Item:	Outside Parts:	255.00
	Outside Labor:	70.00
	<b>Total For This Discrepancy:</b>	<b>325.00</b>

Part Number	Description	Credit	Quantity	Units	List Price	Disc	Unit Price	Extended
0823411-11	Window, Tip Tank (Nav)		1.00	Each	231.000	100	0.000	0.00
15W50	Aeroshell Oil		24.00	Each	4.900		4.900	117.60
2PICO	Fuse, Pico - 2 Amp		1.00	Each	2.600		2.600	2.60
530671	Washer		1.00	Each	1.930		1.930	1.93
CH48111	Oil Filter		2.00	Each	22.280		22.280	44.56
MS35769-11	Gasket (AN900-10)		1.00	Each	1.800		1.800	1.80

**Miscellaneous Charges:**

	Misc Supplies:	16.22
--	----------------	-------

AUTO PILOTS CENTRAL IH  
P O BOX 502100  
TULSA, OK 74150

hours:	168.49	Misc Supplies:	16.22
	740.80	Total Outside Parts:	255.00
	70.00		

TIME 4:06 PM DATE 07/19/02  
TERM# 00270013 MER# 000411201620993  
TRM TYPE SALE

CARD TYPE VISA  
EXP DATE 09/05 SEQ # 001  
TICKET # 001361  
AUTH CODE 427774

TOTAL \$1265.13

Signature:   
ROBERT RUMLACH

<b>SubTotal:</b>	1,250.51
<b>OK Sales Tax:</b>	14.62
<b>Total Due:</b>	<b>1,265.13</b>

The articles and/or work hereon described is/are certified  
airworthy (unless otherwise specified).  
Autopilots Central, Inc.  
FAA CRS CM2R747K

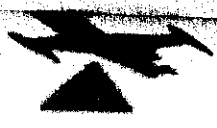
Signature: 

I AGREE TO PAY ABOVE TOTAL AMOUNT  
ACCORDING TO CARD ISSUER AGREEMENT









**Autophos Company, Inc.**  
 Hangar 23, Tulsa International Airport - Tulsa, OK 74115  
 P.O. Box 582108 - Tulsa, OK 74158  
 (918)836-6418 - Fax (918)832-0136  
 FAA CRS CM2R747K

Invoice

**Work Order:** MA02-00202  
**Acct Number:** 671-8136  
**Department:** Maintenance  
**Opened:** 7/9/2002  
**Closed:**

Sold To: Bob Rumachik

Tulsa, OK 74133

**Aircraft Number:** N421D **Type:** 421 **S/N:** 421-0045

Eng#	Type	Total Time: S/N	Hobbs Time: Time Cycles	Prop Type	Tach Time: Prop S/N	Prop Time
1			0.0	1,867.2		0.0
2						

**Discrepancy:** 1

**Problem:**

LH brake soft.

9-2-00 863

1.0

Date Completed: 7-9-02

Completed By Technician: *[Signature]*

Accepted By Inspector: *KIA*

**Instructions:**

Charges This Item:

Total For This Discrepancy:

N/C

**Discrepancy:** 2

**Problem:**

Change oil and filter LH engine, service with AS 15W50.

Date Completed: 7-9-02

Completed By Technician: *[Signature]*

Accepted By Inspector: *KIA*

**Instructions:**

Charges This Item:

Total For This Discrepancy:

N/C

**Discrepancy:** 3

**Problem:**

Change oil and filter, RH engine service with AS15W50.

CW soap. *MAILED*

Date Completed: 7-9-02

Completed By Technician: *[Signature]*

Accepted By Inspector: *KIA*

**Instructions:**

*No Quantity on all Filter Caps etc*

Charges This Item:

Total For This Discrepancy:

N/C

**Discrepancy:** 4

**Problem:**

1. Top off brake reservoirs. *RH*
2. Service nose and main tire pressures. Nose 35 psi, & mains 70 psi. *ALC*
3. Visual insp. of nose and main tires for wear. *[Signature]*
4. Visual inspection of brake disc's and linings. *[Signature]*
5. Inspect water level in the battery cells. *[Signature]*

17.0-17.5 8263

2.5  
9.5

6. Insp. of all exterior lights for operation. YH
7. Insp. of all interior lights for operation. YH
8. Insp. of the propeller deice boots for heating. YH
9. Insp. of pitot tubes for heating. YH
10. Insp. of the static ports for heating. YH
11. Insp. of the stall vane for heating. N/A
12. Clean pilots and copilots windshields. YH
13. Check surface deice boots for inflation on a/c run up. N/A
14. Check spoilers for operation on a/c run up. N/A

*EXCESSIVE Blow-by from Clump  
 to overboard on L/H EXHAUST.  
 LB*

Date Completed:  
7-9-02

Completed By Technician:  
[Signature]

Accepted By Inspector:  
[Signature]

**Instructions:**

Charges This Item:	Total For This Discrepancy:	N/C
<b>Summary:</b>		
<b>Totals:</b>		
	<b>SubTotal:</b>	<b>0.00</b>
	<b>Total Due:</b>	<b>0.00</b>

Terms: C.O.D.

The articles and/or work hereon described is/are certified  
 airworthy (unless otherwise specified).  
 Autopilots Central, Inc.  
 FAA CRS CM2R747K

Authorized Signature \_\_\_\_\_

*Loss car key*

*50 hours*  
 7/9  
 11.1 on  
 12.0 off } 253  
 13.0 on  
 15.2 off

*.8*  
2.2  
3.0

7/9 10.0-12.0 # 254 2.0  
 7/9 13.0-17.5 4.5  
6.5

# DISCREPANCY REPORT

Work Order No. MPO-00207 Aircraft 421 H.M. 1817.2 Tach N 4210 Page 1

Time Clock	Total Hours	Mech. No.		Discrepancy & By	Remarks	Action Taken & By	Insp.
7/ 12.2 OFF	1.0	202	NO	4H Brake soft	Fluid level low due to pinhead wear of grooves of brake disc. Filled both 4H, R/H reservoirs.	<del>_____</del>	Ry
19 12.0 ON			1				
OFF			AUTH				
ON			KH				
7/ 10.5 OFF	.5		NO	engine leaking at clamp fwd. of overboard		Tighten pipe to make with flange	KH
19 10.2 ON			2				
OFF			AUTH				
ON			KH				
7/ 10.7 OFF	.2		NO	clamp loose on # 2 cyl. on take side		Tighten clamp	KH
19 10.5 ON			3				
OFF			AUTH				
ON			KH				
7/ 10.2 OFF	.1		NO	Seat from Run a/c has hole. 4H		Put RTV on hole	KH
19 10.2 ON			4				
OFF			AUTH				
ON			KH				
7/ 10.0 OFF	.2		NO	Fuel pump cooling		put RTV on hole	KH
19 10.6 ON			5				
OFF			AUTH				
ON			KH				
7/ 10.0 OFF			NO	# 3 Seat over-head Reading light is unop.		NO ACTION	KH
19 10.0 ON			6				
OFF			AUTH				
ON			KH				
7/ 15.7 OFF	.9		NO	LH WING 1 EA		Cleaned socket & secured power wire - all good	KH
19 15.3 ON			7				
OFF			AUTH				
ON			KH				

# DISCREPANCY REPORT

Work Order No. 117-02-20292 Aircraft \_\_\_\_\_ H.M. \_\_\_\_\_ Tach \_\_\_\_\_ N 4210 Page \_\_\_\_\_

Time Clock	Total Hours	Mech. No.		Discrepancy & By	Remarks	Action Taken & By	Insp.
7/ 10.0 OFF	1.4	254	NO	CW AD 2000-01-16 IAW D by VISUAL INSPECTION of L/R EXHAUST		See AD 2000-01-16 Verify Eng. Part L/R EXHAUST SYSTEMS	KA
7/ 10.3 ON			AUTH				
7/ 11.0 OFF	3.0	243	NO	LH ENG. LH MAG. HOT T/S PLEADS OK	Removed mag PN 10-349220-4 SN 8306078 FOR REPAIR BY QUALITY	R/R MAG MAG FOR REPAIR BY QUALITY	KY
7/ 8.0 ON			AUTH				
7/ 9.5 OFF	1.5	263	NO	INST. NEW SHIELD GROUND WIRE 2" FORM TO LH P LEAD SHIELDING		Installed lead	KY
7/ 5.0 ON			AUTH				
7/ 9.2 OFF	3	263	NO	2 SKT			
7/ 9.5 ON			AUTH				
OFF	5.4	263	NO	2 SKT			
ON			AUTH				
OFF	Bill	2	NO	2 SKT			
ON			AUTH				
OFF			NO				
ON			AUTH				
OFF			NO				
ON			AUTH				
OFF			NO				
ON			AUTH				
OFF			NO				
ON			AUTH				

Run 11  
 NC  
 HFD  
 Clock Time Record  
 No. Mech

Time Record  
Clock

FAA FORM 8130-3, AIRWORTHINESS APPROVAL TAG

Organization Name and Address: Quality Aircraft Accessories Inc. (QYIR334Y) Phone: 1-877-831-6948  
5746 E. Apache, Bldg A  
Tulsa, OK 74115 Fax: 918-835-6948  
918-835-2804

5. Work Order/Invoice Number: INV # 13022

6. Item	7. Description	8. Part/Number	9. Eligibility	10. Qty	11. Serial/Batch Number	12. Status/Work
1	Magneto	10-349230-4	(VARIOUS)	1	8306078	Repair

13. Remarks: CSB641 Condenser; ms3644 coil & rotor (AD# 9401-03P2)

See Attached Work Order Summary for details. (2) pages (MECH: KW)

14. Certifies the items identified above were manufactured in conformity to:  
 Approved design data and are in a condition for safe operation  
 Non-approved design data specified in Block 13  
 14 CFR 43.9 Return to Service  Other regulation specified in Block 13  
 Certifies that unless otherwise specified in Block 13, the work identified in Block 12 and described in Block 13 was accomplished in accordance with Title 14, Code of Federal Regulations, part 43 and in respect to that work, the item(s) is (are) approved for return to service.

16. Approval/Authorization No.:  
 20. Authorized Signature: *Susan Ymskar*  
 21. Approval/Certificate No.: QYIR334Y

17. Name (Typed or Printed):  
 18. Date (m/d/y):  
 22. Name (Typed or Printed): *Susan Ymskar*  
 23. Date (m/d/y): 7-10-02

FAA Form 8130-3 (6-02) \*Installer must cross check eligibility with applicable technical data.

PO# \_\_\_\_\_  
 WO# 13190  
 Date 7-10-02  
 8306078

Mechanic Initial

Preliminary Test (if required) \_\_\_\_\_ *kw*

Disassembly \_\_\_\_\_ *kw*

Clean \_\_\_\_\_ *kw*

Inspect \_\_\_\_\_ *kw*

Hidden Damage Inspect. (if applicable) \_\_\_\_\_ *kw*

Repair \_\_\_\_\_ Overhaul \_\_\_\_\_ Exchange \_\_\_\_\_ Test \_\_\_\_\_ *kw*

Run In (if required) \_\_\_\_\_ *kw*

Final Test / Inspection \_\_\_\_\_ *kw*

Maintenance Release Issue \_\_\_\_\_

Inspector's Signature \_\_\_\_\_ *[Signature]*

Inspection Notes & Parts List  
 Manual #: X92001-1 Issue Date: Jan. 1990

Come in speed 15 RPM Ship Via \_\_\_\_\_  
 Coil: Primary = OK Freight \_\_\_\_\_  
 Secondary = OK Labor \_\_\_\_\_  
 Contacts = .018  
 E Gap = 15

All S/B's incorporated into Manual have been complied with including the following: CSB641 Condenser, ms3644 coil & rotor - AD# 9401-03P2  
 Parts \_\_\_\_\_  
 Total \_\_\_\_\_



Hangar 23, Tulsa International Airport - Tulsa, OK 74116  
 P.O. Box 582108 - Tulsa, OK 74158  
 (918)836-6418 - Fax (918)832-0136  
 FAA CRS CM2R747K

Invoice

Work Order: MA02-00202  
 Acct Number: 671-8136  
 Department: Maintenance

Opened: 7/9/2002  
 Closed:

Sold To: Bob Rumachik

Tulsa, OK 74133

<b>Aircraft Number:</b> N421D		<b>Type:</b> 421		<b>S/N:</b> 421-0045	
Total Time: 0.0		Hobbs Time: 1,867.2		Tach Time: 0.0	
<b>Eng#</b>	<b>Type</b>	<b>S/N</b>	<b>Time</b>	<b>Cycles</b>	<b>Prop Type</b>
1					
2					

**Discrepancy: 1**  
**Problem:**  
 LH brake soft.  
**Action Taken:**  
 Serviced brake resivior, test normal.

**Discrepancy: 2**  
**Problem:**  
 Change oil and filter LH engine, service with AS 15W50.

**Discrepancy: 3**  
**Problem:**  
 Change oil and filter, RH engine service with AS15W50.  
 CW soap.

**Discrepancy: 4**  
**Problem:**

1. Top off brake reservoirs. \_\_\_\_\_
2. Service nose and main tire pressures. \_\_\_\_\_
3. Visual insp. of nose and main tires for wear. \_\_\_\_\_
4. Visual inspection of brake disc's and linings. \_\_\_\_\_
5. Inspect water level in the battery cells. \_\_\_\_\_
6. Insp. of all exterior lights for operation. \_\_\_\_\_
7. Insp. of all interior lights for operation. \_\_\_\_\_
8. Insp. of the propeller deice boots for heating. \_\_\_\_\_
9. Insp. of pitot tubes for heating. \_\_\_\_\_
10. Insp. of the static ports for heating. \_\_\_\_\_
11. Insp. of the stall vane for heating. \_\_\_\_\_
12. Clean pilots and copilots windshields. \_\_\_\_\_
13. Check surface deice boots for inflation on a/c run up. \_\_\_\_\_
14. Check spoillers for operation on a/c run up. \_\_\_\_\_

**Discrepancy: 5**  
**Problem:**  
 Pick up and returne aircraft to hanger 12.

**Discrepancy: 6**  
**Problem:**  
 CW AD 2000-01-16 IAW b. by visual inspection of L&R exhust, due ea. 50hr.

**Discrepancy:** 7

**Problem:**

Repositioned LH engine waistgate inlet clamp to stop leak.

**Discrepancy:** 8

**Problem:**

Applied RTV to 1/4in. holes in intercooler and fuel pump SCAT.

**Discrepancy:** 9

**Problem:**

LH lower nav light inop.

**Action Taken:**

Cleaned socket and secured wiring.

**Discrepancy:** 10

**Problem:**

Skynav 5000 GPS S/N4A000344

Dead - Does not light up.

**Action Taken:**

Failed to power up on bench. Troubleshoot and replaced internal fuse to restore functions. Returned to aircraft and verified power up state.

**Miscellaneous Charges:**

Misc Supplies:	1.46
----------------	------

**Totals:**

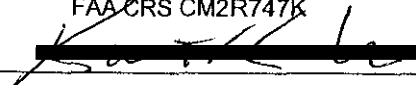
<b>SubTotal:</b>	<b>74.46</b>
<b>OK Sales Tax:</b>	<b>0.12</b>
<b>Total Due:</b>	<b>74.58</b>

Terms: C.O.D.

The articles and/or work hereon described is/are certified  
airworthy (unless otherwise specified).

Autopilots Central, Inc.  
FAA CRS CM2R747K

Authorized Signature \_\_\_\_\_



# UNIVERSAL LABORATORIES

P.O. NUMBER: No Charge  
CODE: 35

UNIT NUMBER: N421D-RH  
REPORT DATE: 7/16/02  
LAB NUMBER: B77074

## OIL REPORT

<b>CLIENT</b>	CONTACT: RALPH STAHL	PHONE: (918) 836-6418
	NAME: AUTOPILOTS CENTRAL INC	FAX: (918) 832-0136
	ADDRESS: 3112 NORTH 74TH EAST AVE TULSA, OK 74115	E-MAIL:

<b>UNIT</b>	EQUIPMENT MAKE: Continental	OIL USE INTERVAL: 23 hours
	EQUIPMENT MODEL: GTS10-520-D	OIL TYPE & GRADE: Aeroshell 15W/50
	FUEL TYPE: Gasoline(Leaded)	MAKE-UP OIL ADDED:
	ADDITIONAL INFO: S/N 601065 Spin-on C-421	

**COMMENTS** RALPH: Universal averages show typical wear metals for an oil from this type engine after a routine oil run. This oil was short run (for the type) at 23 hours and we found nickel and silicon a little above average. For engines with all steel cylinders, nickel running high may show poor wear at exhaust valve guides. Silicon can be abrasive dirt escaping air filtration. Oil filtration looks okay. This was 15W/50 aircraft-use engine oil with no gas or moisture in it. The oil use interval of 23 hours was about right for the way this engine wears. Use 23 hours again next sample.

<b>ELEMENTS IN PARTS PER MILLION</b>	M/HR ON OIL	23	UNIT / LOCATION AVERAGES				UNIVERSAL AVERAGES
	M/HR ON UNIT	101					
	SAMPLE DATE	07/09/02					
ALUMINUM	11	11				10	
CHROMIUM	10	10				10	
IRON	73	73				59	
COPPER	12	12				9	
LEAD	3820	3820				5983	
TIN	2	2				1	
MOLYBDENUM	3	3				4	
NICKEL	18	18				11	
MANGANESE	0	0				1	
SILVER	0	0				0	
TITANIUM	0	0				0	
POTASSIUM	0	0				0	
BORON	0	0				1	
SILICON	12	12				5	
SODIUM	2	2				1	
CALCIUM	3	3				2	
MAGNESIUM	1	1				1	
PHOSPHORUS	1091	1091				179	
ZINC	8	8				7	
BARIUM	0	0				0	

<b>PROPERTIES</b>	TEST	cST VISCOSITY @ 40°C	SUS VISCOSITY @ 100°F	VISCOSITY INDEX	cST VISCOSITY @ 100°C	SUS VISCOSITY @ 210°F	FLASHPOINT IN °F	FUEL %	ANTIFREEZE %	WATER %	INSOLUBLES %	
	VALUES SHOULD BE					82-99	>440	<1.0			<0.00	<0.7
	TEST VALUES WERE					91.6	-	-	-	0.0	0.5	