

WORK
ORDER **70831**

LY-CON REBUILDING CO.

Cylinder Squawk Sheet

Manufacturer: LYCOMING

Customer: NATIONAL TRANSPORTATION SA

Model: O-540-E4B5

Work Requested: INSPECT AND MEASURE PARTS

Date: 4/20/2021

Mechanics Name: _____

Cyl. #1 S/N _____

Cyl. #2 S/N _____

Cyl. #3 S/N _____

Cyl. #4 S/N _____

Cyl. #5 S/N _____

Cyl. #6 S/N _____

Cylinder Material: Steel ☐

Nitride ☐

Chrome ☐

Cerminil ☐

NIC3 ☐

Narrow Deck ☐

Wide Deck ☐

Light Weight ☐

Parallel Valve ☐

Angle Valve ☐

CYLINDER # 5

INTAKE GUIDE ON CYLINDER # 5 IS OVER NEW LIMIT.
ALSO EXHAUST GUIDE IS OVER NEW LIMIT

CYLINDER # 6

INTAKE AND EXHAUST GUIDES ARE OVER NEW LIMIT

FOR MIN. AND MAX SEE NEXT SHEET

EXHAUST VALVE ON CYLINDER # 5 HAS .0011 STEM
WEAR

INTAKE VALVES ON CYLINDER # 5 AND #6 HAVE .0007
AND .0009 STEM WEAR

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LY-CON REBUILDING CO.

Valve-Guide-Seat Inspection & Repair

Manufacturer: LYCOMING

Customer: NATIONAL TRANSPORTATION SAFETY

Model: O-540-E4B5

Work Requested: INSPECT AND MEASURE PARTS

Date: 4/20/2021

Intake Guide P/N	Guide O.D.	Guide I.D. Min	Max
Exhaust Guide P/N	Guide O.D.	Guide I.D. Min	Max
Intake Valve P/N	O.D. Min	O.D. Max	Service Max
Exhaust Valve P/N	O.D. Min	O.D. Max	Service Max

Cylinder Number	#1	#2	#3	#4	#5	#6
Intake Guide Boss Dimension						
Pinch						

Exhaust Guide Boss Dimension						
Pinch						

Intake Guide Installed	1					.4076	.4081
	2					.4053	.4064
	3					.4075	.4072

Exhaust Guide Installed	1					.5002	.5042
	2					.5011	.5051
	3					.5042	.5041

Intake Stem Dia.	1					.4021	.4020
	2					.4025	.4025
	3					.4016	.4018
Stretch						.0009	.0007

Exh. Stem Dia.	1					.4936	
	2					.4926	
	3					.4937	
Stretch						.0011	

Remarks:

Mechanic's Name:

Inspected By:

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LY-CON REBUILDING CO.

Cylinder Squawk Sheet

Manufacturer: LYCOMING

Model: O-540-E4B5

Customer: NATIONAL TRANSPORTATION SALES

Work Requested: INSPECT AND MEASURE PARTS

Date: 4/20/2021

Mechanics Name: _____

Cyl. #1 S/N _____

Cyl. #2 S/N _____

Cyl. #3 S/N _____

Cyl. #4 S/N _____

Cyl. #5 S/N _____

Cyl. #6 S/N _____

Cylinder Material:

Steel ☐

Nitride ☐

Chrome ☐

Cerminil ☐

NIC3 ☐

Narrow Deck ☐

Wide Deck ☐

Light Weight ☐

Parallel Valve ☐

Angle Valve ☐

CYLINDER BORE ON CYLINDER #5 MEASURE WITH
LIMITS

CYLINDER BORE ON CYLINDER #6 IS CLOSE TO SERVICE
LIMIT MAX

SEE NEXT SHEET FOR BORE DIAMETERS

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LY-CON REBUILDING CO.

Cylinder Measurement

Manufacturer: LYCOMING

Customer: NATIONAL TRANSPORTATION SAFETY

Model: O-540-E4B5

Work Requested: INSPECT AND MEASURE PARTS

Cylinder P/N _____

Date: 4/20/2021

Bore: ☐ Choke ☐ Straight

Cylinder Material: ☐ Steel ☐ Nitride ☐ Chrome ☐ Cerminil

Cylinder Number	1	2	3	4	5	6
MFG S/N:						
Our S/N:						

Tolerance:	Minimum:		Maximum:		Service Limit:	
Top Measurement	1	2	3	4	5	6
"Y" Diameter					5.1168	5.1196
Size:					5.1170	5.1183
Out of Round					.0002	.0013

Tolerance:	Minimum:		Maximum:		Service Limit:	
Mid Measurement	1	2	3	4	5	6
"X" Diameter					5.1231	5.1234
Size:					5.1226	5.1225
Out of Round					.0005	.0009

Tolerance:	Minimum: 5.1245		Maximum: 5.1270		Service Limit: 5.1305	
Bottom Skirt	1	2	3	4	5	6
"D" Diameter					5.1281	5.1302
Size:					5.1265	5.1329
Out of Round					.0016	.0027

Piston Skirt Diameter						
Piston/Skirt Clearance						
Cylinder Choke						

Remarks:

Mechanic: _____

Inspected By: _____

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LY-CON REBUILDING CO.

CYLINDER SHOP SQUAWK SHEET

Manufacturer: LYCOMING

Customer: NATIONAL TRANSPORTATION SAFETY E

Model: O-540-E4B5

Work Requested: INSPECT AND ADVISE

Serial No:

Date: 04/20/21

Bore Size: _____

Mechanics Name: _____

Cyl.# 1 S/N _____

Cyl.# 2 S/N _____

Cyl.# 3 S/N _____

Cyl.# 4 S/N _____

Cyl.# 5 S/N _____

Cyl.# 6 S/N _____

Cylinder Material:

Steel ☐

Nitride ☐

Chrome ☐

Cerminil ☐

NIC3 ☐

Narrow Deck: ☐

Wide Deck: ☐

Light Weight: ☐

Parallel Valve: ☐

Angle Valve: ☐

Cylinder #5

1. IEA Exhaust, Outer, Spring P/N 11400 - Rejected due to testing below limits. 1st Compression test measured at 58lbs. 2nd test measured at 115 lbs.
2. IEA Exhaust Inner, Spring P/N 11795 - Rejected due to testing below limits. 1st compression test measured at 29lbs. 2nd test measured at 59lbs.
3. IEA Exhaust Rocker, Arm P/N 74636 - Rocker Passed magnaflux Inspection. Bushing measured beyond limits. Bushing Dimension are .6262 & .6273 with .0011 out of Round.
4. IEA Intake Rocker, Arm P/N 69444 - Rocker Passed magnaflux Inspection. Bushing measured beyond limits. Bushing Dimensions are .6260 & .6274 with .0014 out of Round.

Cylinder #6

1. IEA Exhaust, Outer, Spring P/N 11300 - Rejected due to testing below limits. 1st compression test measured at 57lbs. 2nd test measured at 114lbs.
2. IEA Exhaust, Inner, Spring P/N 11795 - Rejected due to testing below limits. 1st compression test measured at 25lbs. 2nd test measured at 56lbs.
3. IEA Exhaust, Rocker, Arm P/N LW-18790 - Rocker Passed magnaflux Inspection. Bushing measured within limits, but has FOB damage. Dimensions are .6256 & .6260 with .0004 out of Round.

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LY-CON REBUILDING CO.

Cylinder Squawk Sheet

Manufacturer: LYCOMING

Customer: NATIONAL TRANSPORTATION SAF

Model: O-540-E4B5

Work Requested: INSPECT AND MEASURE PARTS

Date: 4/20/2021

Mechanics Name: _____

Cyl. #1 S/N _____

Cyl. #2 S/N _____

Cyl. #3 S/N _____

Cyl. #4 S/N _____

Cyl. #5 S/N _____

Cyl. #6 S/N _____

Cylinder Material:

Steel

☐

Nitride

☐

Chrome

☐

Cerminil

☐

NiC3

☐

Narrow Deck

☐

Wide Deck

☐

Light Weight

☐

Parallel Valve

☐

Angle Valve

☐

Cylinder #6

4. IEA Intake, Rocker, Arm P/N 69444 - Rocker, Arm Passed
magnaflex Inspection. Bushing measured within limits.
Dimensions are .6256 $\pm$.6262 with .0006 out of
round.

5. IEA Seat valve, Spring, Intake P/N 69532 - Rejected due to failed
magnaflex Inspection. Cracks were located.

6. IEA Seat, valve, Spring lower Intake P/N 13321 - Rejected
due to failed magnaflex Inspection. Cracks were located.

Cylinder #5

5. IEA seat, valve, Spring lower, Exhaust P/N 13322 - Rejected
due to failed magnaflex Inspection. Cracks were located.

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LY-CON REBUILDING CO.

Rocker Arm Inspection & Repair

Manufacturer: LYCOMING

Model: O-540-E4B5

Serial No:

Customer: NATIONAL TRANSPORTATION SAFETY

Work Requested: INSPECT AND MEASURE PARTS

Date: 4/20/2021

Part Number	Casting Number	Magnaflux:
Intake Rocker		Pass ☐
Exhaust Rocker		Fail ☐
Inspector		

Bushing I.D.	Minimum: .6252	Maximum: .6263	Service Limit: .6270
Intake Bushing P/N:		Exhaust Bushing P/N:	

Rod Number	No. 1	No. 2	No. 3	No. 4	No. 5	No. 6
Intake Rocker					.6260	.6256
Bushing Dimension					.6274	.6262
Out of Round					.0014	.0006

Exhaust Rocker					.6262	.6256
Bushing Dimension					.6273	.6260
Out of Round					.0011	.0004

Resurfaced Tip ☐ Burnished ☐ Replaced New ☐

Overhauled ☐ Reamed ☐ Inspected Only ☐

AD 87-10-06 R1: ☐

Remarks: _____

Mechanic _____

Inspector _____

Outer Spring

1st 60 to 66 IBS compressed to 1.77"

2ND 112 to 120 IBS compressed to 1.30"

#5	<u>Intake</u>	<u>Exhaust</u>
	61 IBS	58 IBS
	120 IBS	115 IBS

#6	<u>Intake</u>	<u>Exhaust</u>
	61 IBS	57 IBS
	120 IBS	114 IBS

Inner Spring

1st 29 to 33 IBS compressed to 1.64"

2ND 61 to 67 IBS compressed to 1.17"

#5	<u>Intake</u>	<u>Exhaust</u>
	30 IBS	29 IBS
	61 IBS	59 IBS

#6	<u>Intake</u>	<u>Exhaust</u>
	30 IBS	25 IBS
	61 IBS	56 IBS

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Work Requested: INSPECT AND MEASURE PARTS

Date: 4/20/2021

Mechanics Name: _____

Cyl. #1 S/N _____

Cyl. #2 S/N _____

Cyl. #3 S/N _____

Cyl. #4 S/N _____

Cyl. #5 S/N _____

Cyl. #6 S/N _____

Cylinder Material:

Steel ☐

Nitride ☐

Chrome ☐

Germinil ☐

NiC3 ☐

Narrow Deck ☐

Wide Deck ☐

Light Weight ☐

Parallel Valve ☐

Angle Valve ☐

PIN PLUGS ON CYLINDER #5 HAVE .0050 WEAR ON
FACE SIDE

PISTON PIN HAS .0002 WEAR

PISTON PIN BOSS HAS .0001 WEAR

CLEARANCE ON EXHAUST VALVE AND ROTATOR CAP IS .0040