

Butterfield Industries, Inc.

1-800-524-3404

# INSTALLATION INSTRUCTIONS

P/N BI 8020

OIL RESIDUE COLLECTION SYSTEM

KING AIR C90A

KIT P/N BI 8030-1

09/22/01

REV: B

# Butterfield Industries, Inc.

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## IMPORTANT NOTICE

THE BUTTERFIELD INDUSTRIES OIL RESIDUE COLLECTION SYSTEM INSTALLATION HAS BEEN APPROVED BY THE FEDERAL AVIATION ADMINISTRATION ( FAA ) UNDER SUPPLEMENT TYPE CERTIFICATE (STC )

THIS INSTALLATION MUST CONFORM TO THE FAA APPROVED BUTTERFIELD INDUSTRIES INSTALLATION DRAWINGS AND THE INSTRUCTIONS CONTAINED IN THIS DOCUMENT.

CONFORMITY VERIFICATION OF THE INSTALLED SYSTEM TO THE BUTTERFIELD INDUSTRIES INSTALLATION DRAWINGS AND INSTRUCTIONS IS THE RESPONSIBILITY OF THE INSTALLATION FACILITY.

DEVIATIONS TO THE FAA APPROVED BUTTERFIELD INDUSTRIES INSTALLATION DRAWINGS AND INSTRUCTIONS MUST BE APPROVED BY BOTH THE FAA AND BUTTERFIELD INDUSTRIES. THE INSTALLATION FACILITY IS RESPONSIBLE FOR BOTH COORDINATING AND OBTAINING THAT APPROVAL.

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**DRAWN**

B. Whitcomb 05/10/00

**CHECKED**

J. Whitcomb 05/10/00

**ENGINEER**

J. Whitcomb 05/10/00

**STRESS****APPROVED**

W. Butterfield 05/15/00

BUTTERFIELD INDUSTRIES, INC.

INSTALLATION INSTRUCTIONS

OIL RESIDUE COLLECTION

SYSTEM

KING AIR C90A SERIES AIRCRAFT

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## REVISIONS

LTR	DESCRIPTION	APPROVALS
A	<p>REVISION TO CHANGE DIMENSION OF TANK</p> <p><b>REASON:</b> TO FACILITATE A BETTER FIT INSIDE THE COWL MAKING AN EASIER INSTALLATION</p> <p><b>PRODUCTION INFO:</b> ALL WILL COMPLY</p>	<p>DRAWN: B. WHITCOMB 02/17/2001</p> <p>CHECKED: J. WHITCOMB 02/17/2001</p> <p>APPROVED W. BUTTERFIELD 02/20/2001</p>
B	<p>REVISION TO CHANGE THE NUMBER ON REMOVAL AND INSTALLATION DRAWINGS</p> <p><b>REASON:</b> TO HAVE THE KIT PART NUMBER AND INSTALLATION DRAWING NUMBERS MATCH FOR IDENTIFICATION OF KIT</p> <p><b>PRODUCTION INFO:</b> EXISTING INSTALLATIONS SATISFACTORY, FUTURE INSTALLATIONS TO COMPLY</p>	<p>DRAWN: B. WHITCOMB 09/15/2001</p> <p>CHECKED: J. WHITCOMB 09/15/2001</p> <p>APPROVED W. BUTTERFIELD 09/22/2001</p>

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# Butterfield Industries, Inc.

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## 1.0 INTRODUCTION

THIS DOCUMENT IS INTENDED TO PROVIDE DETAILED INSTRUCTIONS FOR THE INSTALLATION OF THE BUTTERFIELD INDUSTRIES 'OIL RESIDUE COLLECTION SYSTEM' ON THE KING AIR C90A FAMILY OF AIRCRAFT.

## 2.0 REQUIRED DOCUMENTATION

IN ADDITION TO THIS INSTRUCTION MANUAL, THE FOLLOWING DOCUMENTS WILL BE REQUIRED TO INSTALL THE OIL RESIDUE COLLECTION SYSTEM.

### 2.1 BUTTERFIELD SUPPLIED DOCUMENTS

THE FOLLOWING DRAWINGS OF THE CORRECT REVISION ARE SUPPLIED AS PART OF THIS DOCUMENTATION.

BI-8030 SHEET 1 AND 2 RESIDUE TANK INSTALLATION

BI-8015 DRAWING LIST

### 2.2 CUSTOMER SUPPLIED DOCUMENTS

THE FOLLOWING DOCUMENTS, OF THE LATEST REVISION IN EFFECT AT THE TIME OF THE KIT INSTALLATION, SHALL BE SUPPLIED BY THE CUSTOMER OR THE INSTALLATION FACILITY.

101-590010-19            BEEHCRAFT KING AIR C90A  
   MAINTENANCE MANUAL

FAA-AC 43.13-1A        ACCEPTED METHODS, TECHNIQUES AND  
   PRACTICES FOR AIRCRAFT ALTERATION,  
   INSPECTION AND REPAIR.

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## 3.0 GENERAL

THE OIL RESIDUE COLLECTION SYSTEM, PART NUMBER BI-8030-1, IS ELIGIBLE FOR INSTALLATION ON THE BEEHCRAFT KING AIR C90A FAMILY OF AIRCRAFT UNDER AUTHORIZATION OF THESE INSTRUCTIONS AND THE ATTACHED STC # SA01454CH.

SERIAL NUMBER OF AUTHORIZED AIRCRAFT ARE AS FOLLOWS

LJ 1063 AND AFTER

MODEL C90A OR C90B

PREMODIFIED AIRCRAFT MUST CONFORM TO INSTALLATION DRAWING BI-8030

SHEET 1 “MANIFOLD REMOVAL”

SHEET 2 “TANK INSTALL”

## 3.1 KIT DESCRIPTION

INSTALLATION OF THE BUTTERFIELD INDUSTRIES OIL RESIDUE COLLECTION SYSTEM ALLOWS THE COLLECTING OF DRAIN FLUID INTO A SINGLE SUMP ASSEMBLY. THE SUMP HAS A DRAIN VALVE, WHICH CAN BE USED PERIODICALLY TO DRAIN THE TANK. THE SYSTEM WILL ELIMINATE THE OIL MESS ON THE BOTTOM OF THE NACELLE AND ON THE MAIN LANDING GEAR. IT WILL ALSO CLEAN UP THE MESSY OIL SPOTS ON THE HANGAR FLOOR AND RAMP WHEN THE AIRCRAFT IS PARKED. THIS IS A MESS AS WELL AS AN EPA HAZARD.

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## **3.2 KIT CONTENTS**

THE CONTENTS OF THE BI-8030-1 KIT ARE AS SPECIFIED IN THE LIST OF MATERIALS ON SHEET 1 OF THE DRAWING LISTED IN PARAGRAPH 2.1 . ADDITIONALLY, THE KIT CONTAINS A DATA PACKAGE CONTAINING:

- 1) BI 8020 - " INSTALLATION INSTRUCTIONS "
- 2) A COPY OF THE PACKING LIST ( PAGE 12 )
- 3) DRAWINGS LISTED IN PARAGRAPH 2.1
- 4) ONE COPY OF THE STC

BUTTERFIELD INDUSTRIES SHOULD BE NOTIFIED IMMEDIATELY OF ANY SHORTAGES OR OTHER DISCREPANCIES.

## **3.3 SPECIALIZED TOOLING REQUIRED**

OTHER THAN STANDARD AIRCRAFT TECHNICIAN'S TOOLS, NO SPECIAL TOOLS REQUIRED.

## **4.0 AIRPLANE PREPARATION**

NO SPECIAL AIRPLANE PREPARATION IS REQUIRED PRIOR TO INITIATING INSTALLATION OF THE OIL RESIDUE COLLECTION KIT.

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## 5.0 REMOVALS

THE OPERATION DEFINED HERE ARE THOSE NECESSARY TO REMOVE AND ALTER COMPONENTS FROM THE LEFT AND RIGHT HAND NACELLE. THE SEQUENCE OF EVENTS IS PRESENTED IN A RECOMMENDED SEQUENCE. HOWEVER, THAT SEQUENCE MAY BE ALTERED TO SUIT THE CUSTOMER OR THE INSTALLATION FACILITY.

REF,            DRAWING BI-8030            SHEET 1

- 1) GAIN ACCESS TO THE FORWARD SIDE OF THE FIREWALL BY REMOVING COWLING AS REQUIRED.
- 2) DISCONNECT HOSES FROM EXISTING DRAIN MANIFOLD.
- 3) REMOVE AND DISCARD MANIFOLD ( 101-910105-13 ) AND THE ATTACHED HARDWARE AS SHOWN .

## 6.0 KIT INSTALLATION

THE FOLLOWING PARAGRAPHS DEFINE THE INSTALLATION OF THE RESIDUE OIL COLLECTION SYSTEM. THE ACTIVITIES SPECIFIED HEREIN ARE PRESENTED IN A RECOMMENDED SEQUENCE. HOWEVER, THAT SEQUENCE MAY BE ALTERED TO SUIT THE CUSTOMER OR THE INSTALLATION FACILITY. UNLESS OTHERWISE SPECIFIED, INSTALLATION OF ALL HARDWARE SHALL CONFORM TO FAA-AC 43.13-1A.

### 6.1 SUMP ASSEMBLY INSTALLATION

REF:            DRAWING BI 8030            SHEET 2

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- 1) POSITION SUMP ASSEMBLY ( BI 8005-1 ) ON THE ENGINE FIREWALL AS SHOWN.

THE EXISTING HOLE IN THE ENGINE COWL MAY REQUIRE ENLARGMENT TO ACCEPT THE NECK OF THE SUMP ASSEMBLY.

- 2) IT WILL BE NECESSARY TO DRILL A .500 HOLE IN COWLING TO ACCOMMODATE OVERFLOW TUBE.
- 3) ATTACH THE SUMP ASSEMBLY WITH TWO BOLTS (AN3H3A) AND WASHERS (AN960KD10) AT TWO EXSITING NUTPLATE LOCATIONS.
- 4) SAFETY-WIRE THE TWO BOLTS AS SHOWN.

## 6.2 HOSE INSTALLATION

CONNECT HOSES TO SUMP ASSEMBLY IN SAME POSITIONS.

## 6.3 FINAL INSTALLATION

- 1) PERFORM A DETAILED INSPECTION OF ALL WORK ACCOMPLISHED
- 2) INSTALL ALL COWLING REMOVED TO GAIN ACCESS FOR THE MODIFICATION.

### NOTE

DRAIN VALVE MAY BE REMOVED DURING COWLING INSTALLATION, AND THEN REINSTALLED.

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## 6.4 INSPECTION

THERE IS NO INSPECTION CRITERIA FOR THE SUMP. CHECK CONTINUED AIRWORTHINESS INSTRUCTIONS ON PAGE 13 FOR SUGGESTIONS AS TO PERIODIC MAINTENANCE.

## 7.0 RETURN AIRPLANE TO SERVICE

- 1) COMPLETE AN APPROPRIATE ENTRY IN THE AIRPLANE LOGBOOK

EXAMPLE:           INSTALLED BUTTERFIELD INDUSTRIES OIL  
RESIDUE COLLECTION SYSTEM PART  
NUMBER BI 8030-1 AS PER STC SA01454CH.

- 2) COMPLETE THREE COPIES OF FAA FORM 337. INSERT ORIGINAL IN AIRPLANE FLIGHT MANUAL. MAIL ONE COPY TO LOCAL FAA-FSDO AND RETAIN ONE COPY FOR THE INSTALLER
- 3) NO WEIGHT AND BALANCE CHANGE

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# **PACKING LIST**

**KIT P/N BI 8030-1**

<b>RESIDUE TANK ASSEMBLY</b>	<b>BI 8005-1</b>	<b>2 EA.</b>
<b>WASHER</b>	<b>AN 960KD10</b>	<b>4 EA.</b>
<b>BOLT</b>	<b>AN3H3A</b>	<b>4 EA.</b>

**CONTINUED AIRWORTHINESS INSTRUCTIONS**

**THERE ARE NO SCHEDULED INSPECTION PERIODS FOR ANY COMPONENT OF THE BUTTERFIELD INDUSTRIES 'OIL RESIDUE COLLECTION SYSTEM.'**

**USE THE FOLLOWING GUIDELINES FOR SUCCESSFUL CONTINUED AIRWORTHINESS.**

**ANYTIME THE COWLING IS OPEN FOR INSPECTION, THE OIL RESIDUE TANK BE INSPECTED FOR CONDITION AND SECURITY.**

**ALL HOSE CLAMPS TO TANK SHOULD BE INSPECTED FOR CONDITION AND SECURITY.**

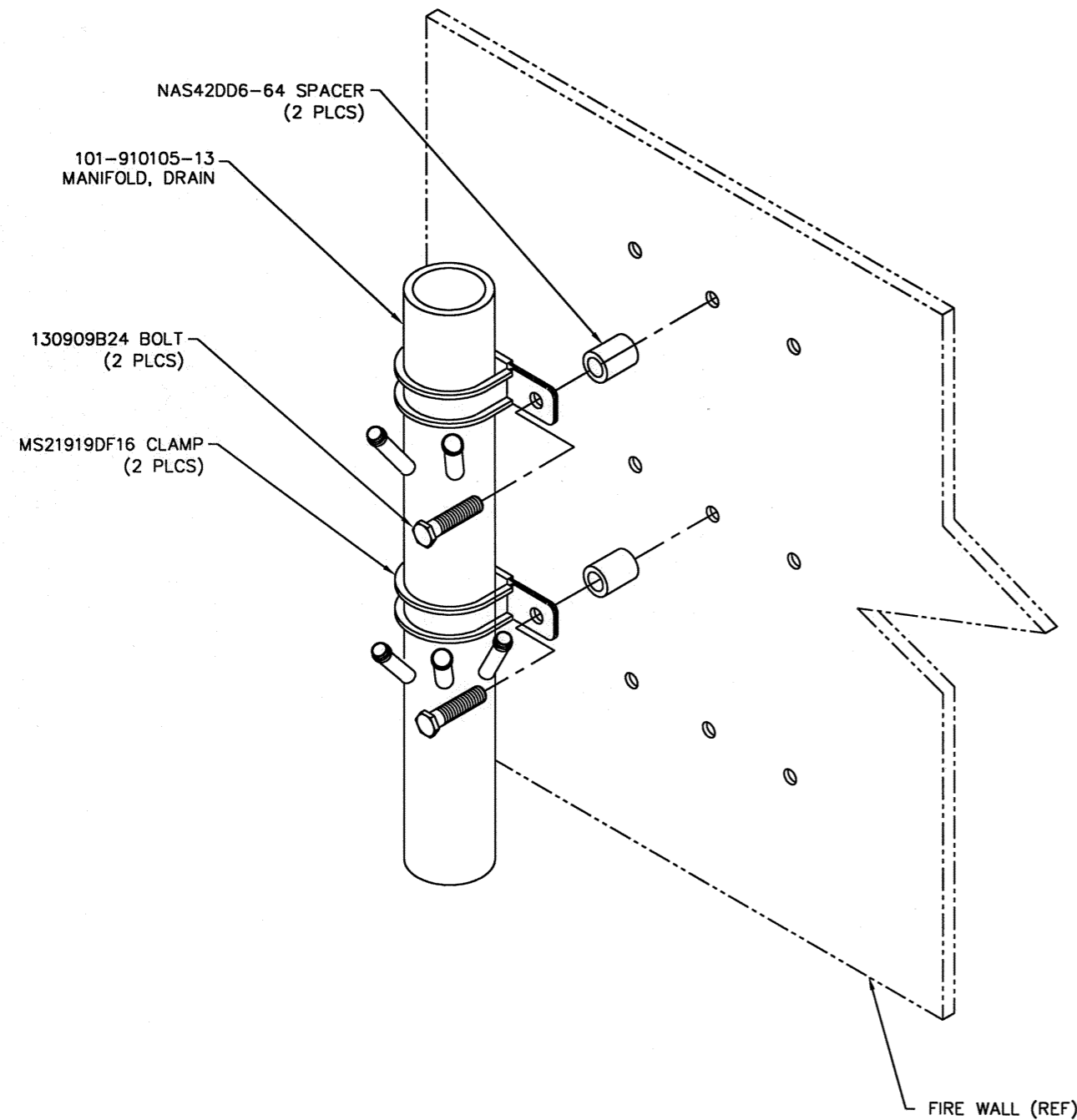
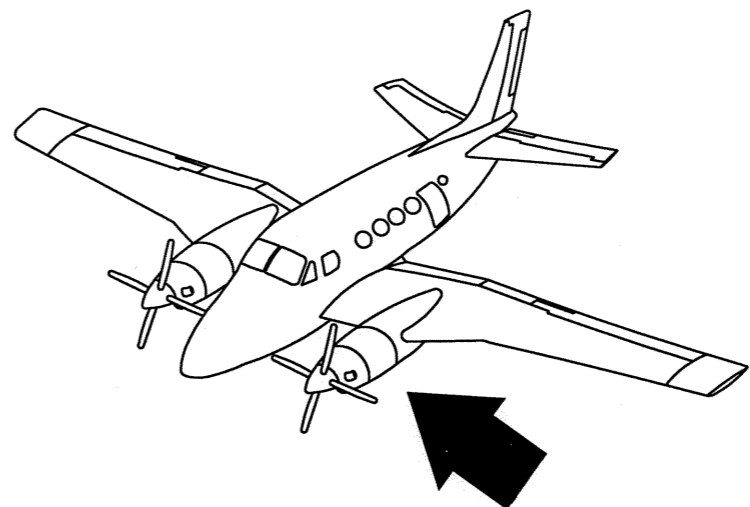
**THE TANK SHOULD BE DRAINED ON A PERIODIC BASIS.**

**IF THE TANK IS NOT DRAINED, THE RESIDUE OIL WILL DRAIN FROM THE OVERFLOW TUBE.**

NOTES:

- 1 SLIGHT ENLARGEMENT OF EXISTING HOLE PERMISSABLE FOR CLEARANCE OF DRAIN VALVE AND TUBE.
- 2 INSTALL BOLTS PER EA-AC43.13
- 3 ALTERNATE PART NUMBER: AN960JD10

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
A	CHANGED DRAWING NUMBER WAS BI-8010	09-22-01	<i>[Signature]</i>

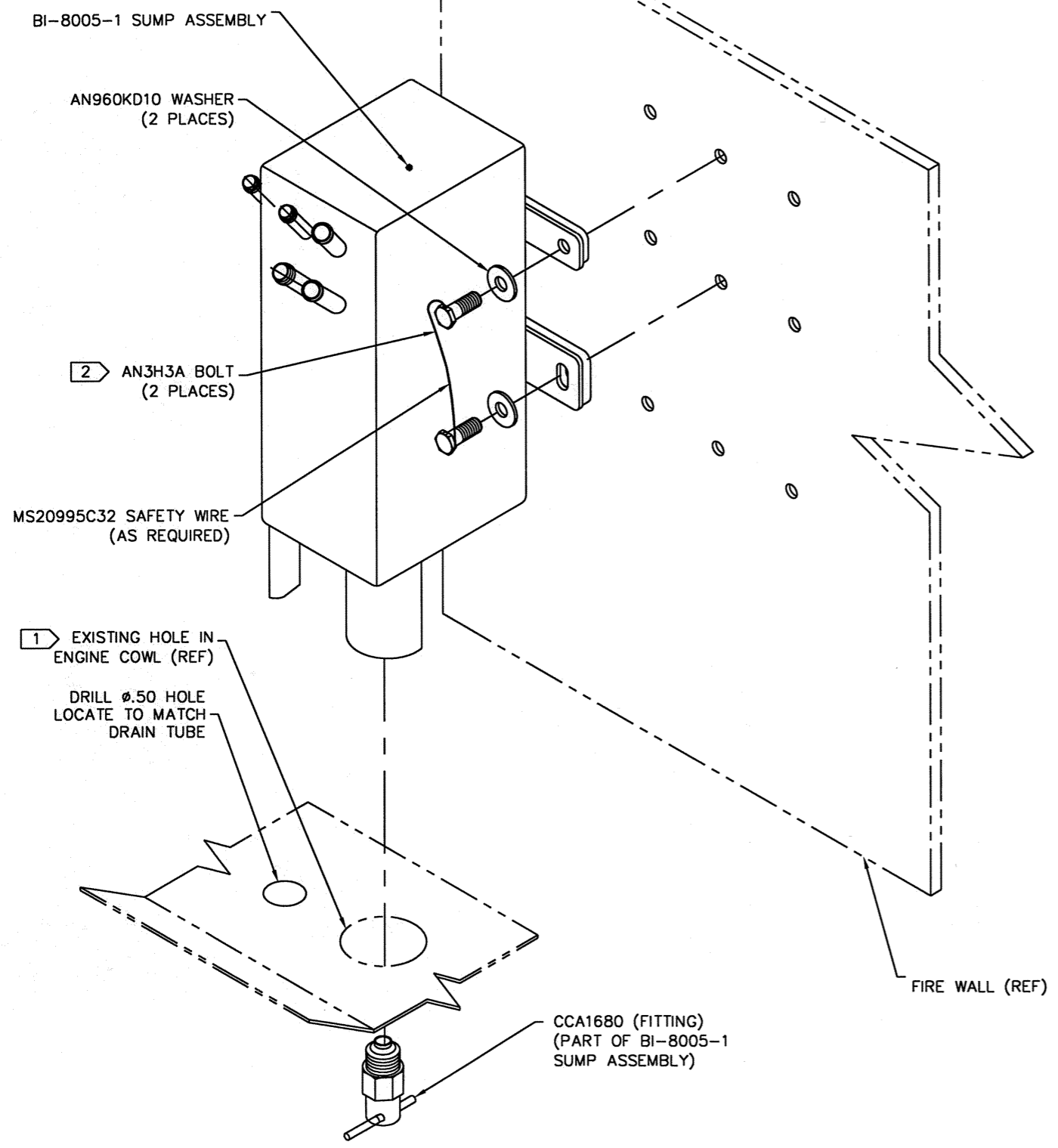


**MANIFOLD REMOVAL**  
TYPICAL L.H. AND R.H. ENGINES

QTY REQ'D	ITEM NO.	PART NUMBER	DESCRIPTION	MATERIAL/SPECIFICATION	FINISH	PT MK	ZONE	REV LTR
	4	AN960KD10	WASHER					3
	4	AN3H3A	BOLT					
	A/R	MS20995-C32	SAFETY WIRE					
	2	B1-8005-1	SUMP ASSEMBLY	BUTTERFIELD INDUSTRIES ROCHESTER, MN.				
	-	-1	SUMP KIT INSTALLATION			R		

UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE IN INCHES		DRAWN B. W. 05-05-00		BUTTERFIELD INDUSTRIES. ROCHESTER, MINNESOTA.	
-TOLERANCES-		CHECKED J. W. 05-10-00			
.X ± .01		ENGR J. W. 05-10-00		OIL RESIDUE COLLECTION SYSTEM INSTALLATION	
.XX ± .03		STRESS			
.XXX ± .010		APPVD W. B. 05-15-00		SIZE D DWG NO. BI-8030 REV LTR A	
ANGULAR ± 2'		SCALE 1/1		SHEET 1 OF 2	
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REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
A	CHANGED DRAWING NUMBER WAS BI-8010 REMOVED "-1" FROM FACE OF DRAWING	09-22-01	W.B.



**DRAIN SUMP KIT INSTALLATION**  
(INSTALLATION TYP. BOTH ENGINES)

SEE SHEET 1 FOR LIST OF MATERIAL, NOTES AND APPLICATION DATA.

PART DASH NO.	NEXT ASSY	USED ON	UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE IN INCHES -TOLERANCES- .X ± .01 .XX ± .03 .XXX ± .010 ANGULAR ± 2°  PROPRIETARY NOTICE BUTTERFIELD INDUSTRIES, INC. PROPRIETARY RIGHTS ARE INCLUDED IN THE INFORMATION DISCLOSED HEREIN. NEITHER THIS DOCUMENT NOR THE INFORMATION DISCLOSED HEREIN SHALL BE REPRODUCED, USED OR PERMISSION OF BUTTERFIELD INDUSTRIES, INC. THE FOREGOING DOES NOT APPLY TO VENDOR DATA.	DRAWN B. W.	05-10-00	BUTTERFIELD INDUSTRIES. ROCHESTER, MINNESOTA.  OIL RESIDUE COLLECTION SYSTEM INSTALLATION	SIZE	DWG NO.	REV LTR		
				CHECKED J. W.	05-10-00		D	BI-8030	A		
				ENGR J. W.	05-10-00		SCALE	1/1	PLSE DATE	SHEET	2 OF 2
				APPRD W. B.	05-15-00						