JEFFREY	MINING PRODUCTS	274 EAS	Y MINING ST 1ST AVE IBUS, OHIO	ì.			JEFFREY NEITHER CONTENTS REPRODUC	NTI XCL I S CED OR C	USIV MI HE ARE , (PAR ONSE	NFO VE NIN DR OR T,	DRMA PI IG AWI TO DI WI	ROP :NG :ESC:	ON PERT PRO OBE LOS DUT	ANI 'Y DU(R U) ED P	AINS O IS OF CTS. ITS SED, IN RIOF	S F S N R
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535.	A183		1			ru -7 31-88-	- •									
DRAWN	DATE			R	A	В										
ROY McKIBBEN	6/4/85			Е	3/21/86	4/18/97										
				V	JVT	KRT										
CHECKED	DATE	_														
ROY McKIBBEN	6/4/85															

THIS BLOCK FOR MSHA USE ONLY	
PS #	
REV LEVEL	

POWER SYSTEM CHECKLIST

SAFETY COMPONENTS SYSTEM FOR A MURPHY/MWM MODEL 916-6 ENGINE

LISTED BELOW ARE THE ITEMS AND FUNCTIONS THAT MUST BE MAINTAINED IN ORDER FOR THE POWER SYSTEM TO BE CONSIDERED PERMISSIBLE. FOR A COMPLETE EQUIPMENT PERMISSIBILITY EVALUATION, THIS CHECKLIST MUST BE IN CONJUNCTION WITH A MACHINE CHECKLIST AND, IF SO EQUIPPED, AN ELECTRICAL SYSTEM CHECKLIST.

ALL INSPECTIONS AND TESTS SHALL BE PERFORMED IN FRESH AIR

TEST SH POWER S		TTLE: EM CHECKLIST			MINE SAFETY & HEALTH ADMINISTRATION APPROVED PRINT. NO DEVIATION OR REVISION IS LEGAL UNTIL APPROVED BY MSHA								
DISTR. CODE SEE DRG.	STD:	SPECIAL:	ENG. SEC	PRINT LOCATION:	DRAWING NUMBER 535A183	SHEET NO. 1	OF 15 SHEETS						

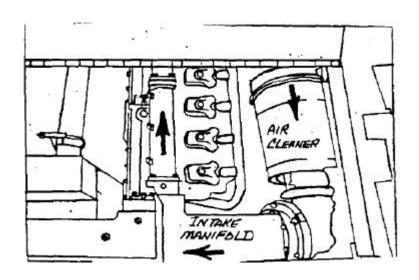
JEFFREY	MINING PRODUCTS	274 EAS	Y MINING ST 1ST AVE BUS, OHIO	Ξ.			JEFFREY NEITHER CONTENTS REPRODUC WHOLE WRITTEN	THANCELU TH S EED, OR CO	SIVE MIN E ARE O PART	IFOI ING DRA I R ,	RMA PR S AWIN O DI:	TION OPEI Pl	I AN RTY RODU OR U SED I F	AINS D IS OF CTS. ITS SED, IN RIOR
			SHEET NO.		USE THIS	MACHINE A S CHECKLIST aru -7 31-88-	Γ.	_			RS	THA	AT	
DRAWN ROY McKIBBEN	DATE 6/4/85			R E V	A 3/21/86 JVT	B 4/18/97 KRT								
CHECKED ROY McKIBBEN	DATE 6/4/85													

- 1. () IT HAS BEEN DETERMINED THAT THE AREA IN WHICH THE TESTS ARE TO BE PERFORMED IS FRESH AIR.
- 2. () THIS MACHINE UTILIZES A MURPHY/MWM SIX CYLINDER MODEL 916-6 DIESEL ENGINE.

INTAKE SYSTEM

SKETCH 1 DEPICTS THE ASSEMBLED INTAKE SYSTEM.

*3. () ALL COMPONENTS APPEAR TO BE THE SAME AS SHOWN IN THE SKETCH



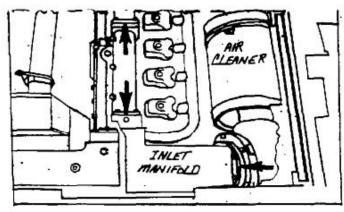
SKETCH NO. 1: ASSEMBLED AIR INTAKE SYSTEM

*(WEEKLY) DESIGNATES THOSE INSPECTION CHECKS THAT MUST BE PERFORMED DURING THE WEEKLY MAINTENANCE EXAMINATION IN ACCORDANCE WITH 30 CFR, SECTION 75.1914.

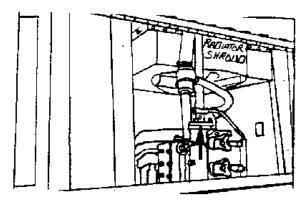
*4. () COPPER GASKETS ARE INSTALLED BETWEEN THE INTAKE SYSTEM JOINTS IDENTIFIED IN SKETCHES 2 AND 3.

TEST SH POWER S		TTLE: EM CHECKLIST			MINE SAFETY & HEALTH ADMIT APPROVED PRINT. NO DEVIATION OR LEGAL UNTIL APPROVED BY MSHA		- '
DISTR. CODE SEE DRG.	STD:	SPECIAL:	ENG. SEC L.	PRINT LOCATION:	DRAWING NUMBER 535A183	SHEET NO. 2	OF 15 SHEETS

JEFFREY	MINING PRODUCTS	JEFFREY M 274 EAST 13 COLUMBUS	ST AVE				THIS DRAWING CONCONFIDENTIAL INFORMATION AT THE EXCLUSIVE PROPERTY JEFFREY MINING PROFESTOR OF THE DRAWING OF CONTENTS ARE TO BE REPRODUCED, OR DISCLOSE WHOLE OR PART, WITHOUT WRITTEN CONSENT FROM JUMINING PRODUCTS.							S F ·S ·N R
DRAWING NO.	DRAWING NO. 535A183				USE THIS	MACHINE A S CHECKLIST nru -7 31-88-	Γ.	, NU	JMI	BER	S T	HAT		
DRAWN ROY McKIBBEN	DATE 6/4/85			R E V	A 3/21/86 JVT	B 4/18/97 KRT								
CHECKED ROY McKIBBEN	DATE 6/4/85													



SKETCH NO. 2: INTAKE SYSTEM GASKETS



SKETCH NO. 3: INTAKE SYSTEM GASKETS

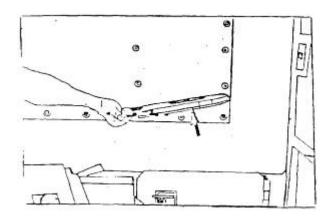
*5. () THE BOLTS AND/OR NUTS SECURING THE JOINTS SPECIFIED IN ITEM 4 ARE IN PLACE AND TIGHT.

*6. () CHECK THE GAP IN THE JOINT BETWEEN THE TWO SECTIONS OF THE FLAME ARRESTER HOUSING

TEST SH POWER S		TTLE: EM CHECKLIST			MINE SAFETY & HEALTH ADMINISTRATION APPROVED PRINT. NO DEVIATION OR REVISION IS LEGAL UNTIL APPROVED BY MSHA								
DISTR. CODE SEE DRG.	STD:	SPECIAL:	ENG. SEC	PRINT LOCATION:	DRAWING NUMBER 535A183	SHEET NO. 3	OF 15 SHEETS						

JEFFREY	MINING PRODUCTS	JEFFREY MINING 274 EAST 1ST AV COLUMBUS, OHIO	E.	THIS DRAWING CONTAINS CONFIDENTIAL INFORMATION AND IS THE EXCLUSIVE PROPERTY OF JEFFREY MINING PRODUCTS. NEITHER THE DRAWING OR ITS CONTENTS ARE TO BE USED, REPRODUCED, OR DISCLOSED IN WHOLE OR PART, WITHOUT PRIOR WRITTEN CONSENT FROM JEFFREY MINING PRODUCTS.
DRAWING NO.	5A183	SHEET NO. 4	PART 36 MACHINE A USE THIS CHECKLIST 31-73-2 thru -7 31-88-	= ,
DRAWN ROY McKIBBEN CHECKED	DATE 6/4/85		R	
CHECKED ROY McKIBBEN	DATE 6/4/85			

WITH THE FLAME ARRESTER INSTALLED IN THE INTAKE SYSTEM (WITH BOLTS TIGHT). THE GAP DOES NOT EXCEED .004 INCHES. THIS JOINT IS DEPICTED IN SKETCH 4 ON A REMOVED FLAME ARRESTER.



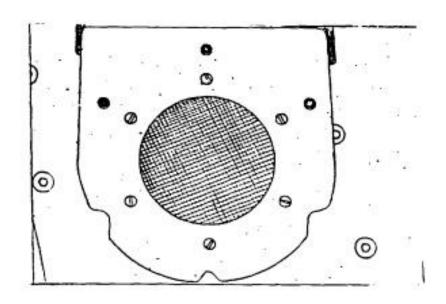
SKETCH NO. 4: JOINT IN THE INTAKE FLAME ARRESTER HOUSING

*(WEEKLY) DESIGNATES THOSE INSPECTION CHECKS THAT MUST BE PERFORMED DURING THE WEEKLY MAINTENANCE EXAMINATION IN ACCORDANCE WITH 30 CFR, SECTION 75.1914.

- 7. REMOVE THE INTAKE FLAME ARRESTER (SKETCH 5).
 - () A. THE FLAME ARRESTER CORE IS CLEAN AND HAS NO APPARENT DAMAGE.
 - () B. THE SIX SLOTTED SCREWS ON THE FLAME ARRESTER ARE IN PLACE AND TIGHT.
 - () C. THE GAP BETWEEN THE CORE AND THE HOUSING DOES NOT EXCEED .004 INCHES.

TEST SH POWER S		TTLE: EM CHECKLIST			MINE SAFETY & HEALTH ADMIT APPROVED PRINT. NO DEVIATION OR LEGAL UNTIL APPROVED BY MSHA		- '
DISTR. CODE SEE DRG.	STD:	SPECIAL:	ENG. SEC	PRINT LOCATION:	DRAWING NUMBER 535A183	SHEET NO. 4	OF 15 SHEETS

JEFFREY	MINING PRODUCTS	JEFFREY MIN 274 EAST 1ST COLUMBUS,	ΓAVE.			JEFFREY NEITHER CONTENTS REPRODUC	TIAL KCLUS THE A CED, DR P CON	IVE MINII C DI RE OR ART,	ORMA P: NG RAWI TO D: WI	ATIO ROPE P	N AN RTY RODU OR OSED	OF JCTS. ITS JSED,
DRAWING NO.	DRAWING NO. 535A183			USE THIS	MACHINE A CHECKLIS' nru -7 31-88-	Т.	NU	JMB	ERS	TH	AT	
DRAWN ROY McKIBBEN	DATE 6/4/85		F	3/21/86	B 4/18/97 KRT							
CHECKED ROY McKIBBEN	DATE 6/4/85											

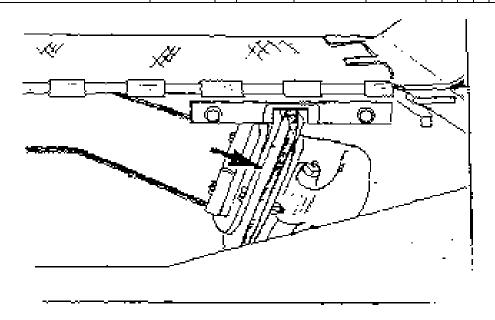


SKETCH NO. 5: INTAKE FLAME ARRESTER

- 8. () REINSTALL THE FLAME ARRESTER. THE SIX BOLTS SECURING THE ASSEMBLY TOGETHER ARE ALL IN PLACE AND TIGHT.
- *9. () THE GAP IN THE JOINT IDENTIFIED BY THE ARROW IN SKETCH 6 DOES NOT EXCEED .004 INCHES.

TEST SH POWER S		TTLE: EM CHECKLIST			MINE SAFETY & HEALTH ADMINISTRATION APPROVED PRINT. NO DEVIATION OR REVISION IS LEGAL UNTIL APPROVED BY MSHA							
DISTR. CODE SEE DRG.	STD:	SPECIAL:	ENG. SEC	PRINT LOCATION:	DRAWING NUMBER 535A183	SHEET NO. 5	OF 15 SHEETS					

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	DRAWING NO. 535A183				USE THIS	MACHINE A S CHECKLIST 11-88-	Γ.	N	UM.	BEI	RS	ΓHΑ	ΥT	
DRAWN ROY McKIBBEN	DATE 6/4/85			R E V	A 3/21/86 JVT	B 4/18/97 KRT								
CHECKED ROY McKIBBEN	DATE 6/4/85													



SKETCH NO. 6: CHECKING GAP IN INTAKE SYSTEM JOINT

- *10. () THE NUTS SECURING THE INTAKE MANIFOLD TO THE ENGINE HEAD ARE IN PLACE AND TIGHT.
- *11. () THE COMPLETE INTAKE SYSTEM SHOWS NO EVIDENCE OF DAMAGE. THERE ARE NO LOOSE CONNECTION(S), CRACKS, OR MISSING PORT PLUGS (OR CAPS).

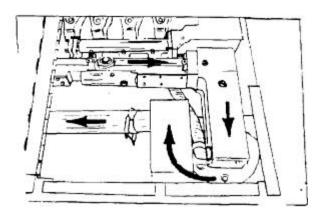
EXHAUST SYSTEM

TEST SH POWER S		TTLE: EM CHECKLIST			MINE SAFETY & HEALTH ADMIT APPROVED PRINT. NO DEVIATION OR LEGAL UNTIL APPROVED BY MSHA		- '
DISTR. CODE SEE DRG.	STD:	SPECIAL:	ENG. SEC	PRINT LOCATION:	DRAWING NUMBER 535A183	SHEET NO. 6	OF 15 SHEETS

JEFFREY	MINING PRODUCTS	JEFFREY MINING 274 EAST 1ST AVI COLUMBUS, OHIO	E.	THIS DRAWING CONTAINS CONFIDENTIAL INFORMATION AND IS THE EXCLUSIVE PROPERTY OF JEFFREY MINING PRODUCTS. NEITHER THE DRAWING OR ITS CONTENTS ARE TO BE USED, REPRODUCED, OR DISCLOSED IN WHOLE OR PART, WITHOUT PRIOR WRITTEN CONSENT FROM JEFFREY MINING PRODUCTS.
DRAWING NO.	A183	SHEET NO. 7	PART 36 MACHINE A USE THIS CHECKLIST 31-73-2 thru -7 31-88-	-
DRAWN ROY McKIBBEN	DATE 6/4/85		R E 3/21/86 B 4/18/97 JVT KRT	
ROY McKIBBEN	DATE 6/4/85			

THE EXHAUST SYSTEM OF THE ENGINE INCLUDES A WATER-COOLED EXHAUST MANIFOLD, WATER-COOLED EXHAUST PIPE, AND A WATER BATH EXHAUST CONDITIONER (SCRUBBER). SKETCH 7 DEPICTS THIS SYSTEM.

*12. () THE NUTS SECURING THE EXHAUST MANIFOLD TO THE ENGINE HEAD ARE IN PLACE AND TIGHT.



SKETCH NO.7: EXHAUST SYSTEM

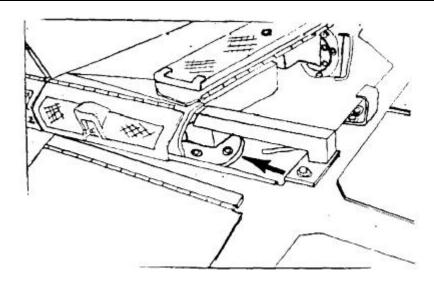
- *13. () A GASKET (FIBER) IS INSTALLED BETWEEN THE FLANGE OF THE EXHAUST MANIFOLD AND FLANGE OF THE EXHAUST PIPE.
- *14. () THE BOLTS SECURING THE EXHAUST MANIFOLD TO THE EXHAUST PIPE, AND HOLDING THE EXHAUST MANIFOLD TOGETHER ARE IN PLACE AND TIGHT.

*(WEEKLY) DESIGNATES THOSE INSPECTION CHECKS THAT MUST BE PERFORMED DURING THE WEEKLY MAINTENANCE EXAMINATION IN ACCORDANCE WITH 30 CFR, SECTION 75.1914.

*15. () THERE IS A COPPER GASKET BETWEEN THE FLANGE OF THE EXHAUST PIPE AND THE FLANGE OF THE SCRUBBER AS SHOWN IN SKETCH 8.

TEST SH POWER S		TTLE: EM CHECKLIST			MINE SAFETY & HEALTH ADMINISTRATION APPROVED PRINT. NO DEVIATION OR REVISION IS LEGAL UNTIL APPROVED BY MSHA						
DISTR. CODE SEE DRG.	STD:	SPECIAL:	ENG. SEC	PRINT LOCATION:	DRAWING NUMBER 535A183	SHEET NO. 7	OF 15 SHEETS				

JEFFREY	MINING PRODUCTS	274 EAS	Y MINING ST 1ST AVE IBUS, OHIO	Ξ.			THIS CONFIDEN THE EX JEFFREY NEITHER CONTENTS REPRODUC WHOLE O WRITTEN MINING F	TIAL CLUS THE A ED, R P CON	IVE MINI RE OR ART,	ORM. P NG RAWI TO D:	ROP: ING B	ON A ERTY PROD OR SE LOSEI	OF UCTS. ITS USED,
DRAWING NO.	DRAWING NO. 535A183				USE THIS	MACHINE A S CHECKLIST aru -7 31-88-	Γ.	N	JMB	ERS	S TH	HAT	
DRAWN ROY McKIBBEN CHECKED ROY McKIBBEN	DATE 6/4/85			R E V	A 3/21/86 JVT	B 4/18/97 KRT							



SKETCH NO. 8: EXHAUST PIPE TO SCRUBBER GASKET LOCATION

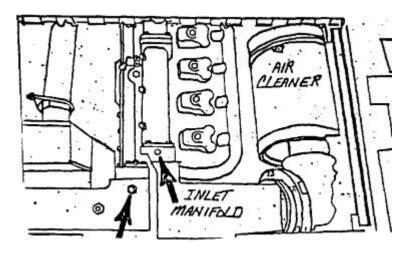
- *16. () THE BOLTS SECURING THE EXHAUST PIPE FLANGE TO THE SCRUBBER ARE ALL IN PLACE AND TIGHT.
- *17. () THE SCRUBBER IS IN GOOD CONDITION WITH NO OPEN HOLES OR CRACKS DUE TO CORROSION, ACCIDENTS, MISSING PLUGS, ETC.

18. () CONNECT A MANOMETER OR MAGNEHELIC TO THE INTAKE VACUUM PORT SHOWN IN SKETCH 9. RUN THE ENGINE AT FULL THROTTLE WITH NO LOAD. THE INTAKE VACUUM DOES NOT EXCEED 20 INCHES OF WATER.

TEST SH POWER S		TTLE: EM CHECKLIST			MINE SAFETY & HEALTH ADMINISTRATION APPROVED PRINT. NO DEVIATION OR REVISION IS LEGAL UNTIL APPROVED BY MSHA						
DISTR. CODE SEE DRG.	STD:	SPECIAL:	ENG. SEC	PRINT LOCATION:	DRAWING NUMBER 535A183	SHEET NO. 8	OF 15 SHEETS				

JEFFREY	MINING PRODUCTS	274 EAS	Y MINING ST 1ST AVE IBUS, OHIO	Ξ.			JEFFREY NEITHER CONTENTS REPRODUCT	TIAL CLUSI M: THE AR: ED, R PA	VE ININ DR. E OR RT,	PRMAT PRO G AWING TO DIS WIT	PRODUCTION AND ADDRESS OF THE CLOSE HOUT	Y (DUCTS R IT USEI ID I PRIC	IS OF S. IS D, IN
DRAWING NO.	PRAWING NO. 535A183				USE THIS	MACHINE A S CHECKLIS' aru -7 31-88-	Т.		TS.	ERS 7		EFFRI	<u>Y</u>
DRAWN ROY McKIBBEN CHECKED ROY McKIBBEN	DATE 6/4/85 DATE 6/4/85			R E V	A 3/21/86 JVT	B 4/18/97 KRT							

- *19. () ENGINE SHUTS DOWN WHEN THE "PUSH TO STOP" BUTTON LOCATED ON THE INSTRUMENT PANEL IS HELD IN.
- 20. () REMOVE THE MANOMETER OR MAGNEHELIC. THE PLUG SEALING THE INTAKE VACUUM PORT IS SECURELY REINSTALLED.
- 21. () CONNECT A MANOMETER OR MAGNEHELIC TO THE EXHAUST BACKPRESSURE PORT SHOWN IN SKETCH 9. RUN THE ENGINE AT FULL THROTTLE WITH NO LOAD. THE BACKPRESSURE DOES NOT EXCEED 40 INCHES OF WATER.



SKETCH NO. 9: INTAKE VACUUM AND EXHAUST BACKPRESSURE PORT LOCATION

*(WEEKLY) DESIGNATES THOSE INSPECTION CHECKS THAT MUST BE PERFORMED DURING THE WEEKLY MAINTENANCE EXAMINATION IN ACCORDANCE WITH 30 CFR, SECTION 75.1914.

- 22. () REMOVE THE MANOMETER OR MAGNEHELIC. THE PLUG SEALING THE EXHAUST BACKPRESSURE PORT IS SECURELY REINSTALLED.
- 23. () COOLANT TEMPERATURE SENSOR SHUTS ENGINE DOWN AT CORRECT TEMPERATURE. TEST THE TEMPERATURE SENSOR VALVE THAT IS INSTALLED IN THE ENGINE WATER OUTLET. SKETCH 10

TEST SH POWER S		TTLE: EM CHECKLIST			MINE SAFETY & HEALTH ADMI APPROVED PRINT. NO DEVIATION OR LEGAL UNTIL APPROVED BY MSHA		- '
DISTR. CODE SEE DRG.	STD:	SPECIAL:	ENG. SEC	PRINT LOCATION:	DRAWING NUMBER 535A183	SHEET NO. 9	OF 15 SHEETS

JEFFREY	MINING PRODUCTS	274 EAS	Y MINING ST 1ST AVE IBUS, OHIC	Ξ.			THIS CONFIDE THE E JEFFREY NEITHER CONTENT: REPRODU	NTIAL XCLUS THI S A	SIVE MINI E I .RE	FORN ING PRAW TO	PROF ING I	ON PERT PRO	Y DUCI R I	IS OF CS.
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DRAWN ROY McKIBBEN	DATE 6/4/85			R E V	A 3/21/86 JVT	B 4/18/97 KRT								
CHECKED ROY McKIBBEN	DATE 6/4/85		1											

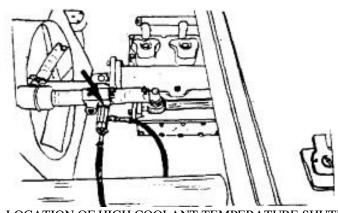
SHOWS THE LOCATION OF THIS SENSOR. ONE TEST METHOD IS OFFERED FOR INFORMATION.

CAUTION: ENGINE COOLANT MAY BE HOT!

METHOD 1:

TO TEST THE TEMPERATURE SENSOR VALVE, UNSCREW THE SENSOR VALVE FROM THE ENGINE WATER OUTLET AND INSTALL A PIPE PLUG IN ITS PLACE. REATTACH THE SAFETY SYSTEM HOSES TO THE SENSOR. START THE ENGINE AND IMMERSE THE END OF THE TEMPERATURE SENSOR VALVE INTO A HEATED AND AGITATED WATER/ANTIFREEZE MIXTURE. THE SENSOR MUST OPEN AND EXHAUST THE SAFETY SYSTEM AIR PRESSURE AND SHUT DOWN THE ENGINE BEFORE THE TEMPERATURE EXCEEDS 212 DEG F.

SENSOR SHUTS ENGINE DOWN AT CORRECT TEMPERATURE

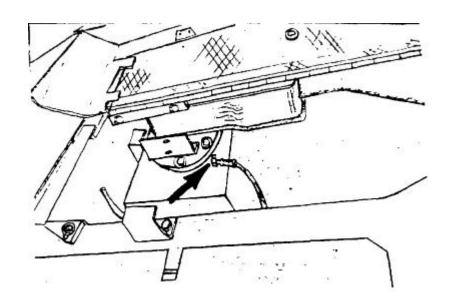


SKETCH NO. 10: LOCATION OF HIGH COOLANT TEMPERATURE SHUTDOWN SENSOR 24. () THE TEMPERATURE SENSOR VALVE IS REINSTALLED AND THE AIR HOSES ARE ATTACHED.

*25. () TEST FOR PROPER SCRUBBER OPERATING WATER LEVEL. AFTER THE ENGINE HAS BEEN OPERATED FOR AT LEAST 5 MINUTES, SHUT THE ENGINE DOWN AND REMOVE THE SCRUBBER DIPSTICK PORT PLUG (SEE SKETCH 11). INSERT A LONG ROD THROUGH THIS PORT AND CHECK THE WATER LEVEL. THE LEVEL SHOULD BE 11 TO 12 INCHES.

TEST SH POWER S		TTLE: EM CHECKLIST			MINE SAFETY & HEALTH ADMINISTRATION APPROVED PRINT. NO DEVIATION OR REVISION IS LEGAL UNTIL APPROVED BY MSHA						
DISTR. CODE SEE DRG.	STD:	SPECIAL:	ENG. SEC	PRINT LOCATION:	DRAWING NUMBER 535A183	SHEET NO. 10	OF 15 SHEETS				

JEFFREY	MINING PRODUCTS	JEFFREY MINI 274 EAST 1ST A COLUMBUS, O	VE.	CONFIDENTIAL INFORMATION AND IS THE EXCLUSIVE PROPERTY OF
DRAWING NO.	A183	SHEET NO.		PART 36 MACHINE APPROVAL NUMBERS THAT USE THIS CHECKLIST. 31-73-2 thru -7 31-88-0
DRAWN ROY McKIBBEN CHECKED ROY McKIBBEN	DATE 6/4/85 DATE 6/4/85			R



SKETCH NO. 11: SCRUBBER DIPSTICK PORT

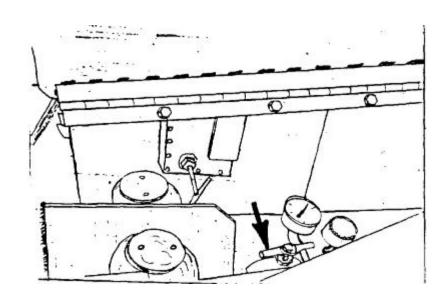
*26. () TEST FOR PROPER SCRUBBER LOW WATER SHUTDOWN

PROCEDURE

A. CLOSE MAKE-UP WATER TANK AIR SUPPLY VALVE. THE LOCATION OF THE VALVE IS SHOWN IN SKETCH 12.

TEST SH POWER S		TTLE: EM CHECKLIST			MINE SAFETY & HEALTH ADMINISTRATION APPROVED PRINT. NO DEVIATION OR REVISION IS LEGAL UNTIL APPROVED BY MSHA						
DISTR. CODE SEE DRG.	STD:	SPECIAL:	ENG. SEC	PRINT LOCATION:	DRAWING NUMBER 535A183	SHEET NO. 11	OF 15 SHEETS				

JEFFREY	MINING PRODUCTS	274 EAS	Y MINING ST 1ST AVE IBUS, OHIC	Ξ.			JEFFREY NEITHER CONTENTS REPRODUC	THIES A CED, OR P CON	SIVE MINI E I RE OR ART,	FORM ING RAW TO D W	PROF ING I	ON APERTY PROI OR BE LOSE:	OUCTS IT: USED
DRAWING NO.	DRAWING NO. 535A183				USE THIS	MACHINE A S CHECKLIS' nru -7 31-88-	Т.	, N	UMI	BER	S T	HAT	
DRAWN ROY McKIBBEN	DATE 6/4/85			R E V	A 3/21/86 JVT	B 4/18/97 KRT							
CHECKED ROY McKIBBEN	DATE 6/4/85												

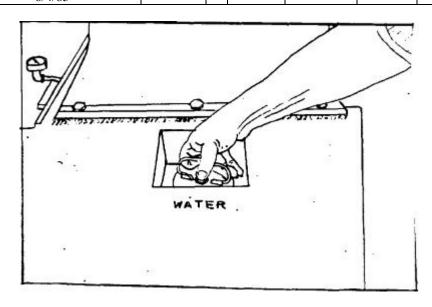


SKETCH NO. 12: MAKE-UP WATER TANK AIR SUPPLY VALVE

B. VENT AIR FROM THE MAKE-UP WATER TANK FILLER CAP AND REMOVE CAP (SHETCH 13).

TEST SH POWER S		TTLE: EM CHECKLIST		MINE SAFETY & HEALTH ADMINISTRATION APPROVED PRINT. NO DEVIATION OR REVISION IS LEGAL UNTIL APPROVED BY MSHA					
DISTR. CODE SEE DRG.	STD:	SPECIAL:	ENG. SEC	PRINT LOCATION:	DRAWING NUMBER 535A183	SHEET NO. 12	OF 15 SHEETS		

JEFFREY	MINING PRODUCTS	JEFFREY N 274 EAST 1 COLUMBU	THIS CONFIDEN THE EX JEFFREY NEITHER CONTENTS REPRODUC WHOLE WHOLE MINING F	TIAI CLUS THE ED, R P COL	SIVE MIN E ARE OI PART	IFOR ING DRA T R	PROWIN O DIS	PER PER G BE GCLOS	AN TY ODU OR U SED	OF ICTS. ITS				
DRAWING NO. 535.	SH	HEET O. 13		USE THIS	MACHINE A S CHECKLIST aru -7 31-88-	PPROVAL Γ.				RS T	ГНА	Т		
DRAWN ROY McKIBBEN CHECKED ROY McKIBBEN	DATE 6/4/85 DATE 6/4/85			R E V	A 3/21/86 JVT	B 4/18/97 KRT								

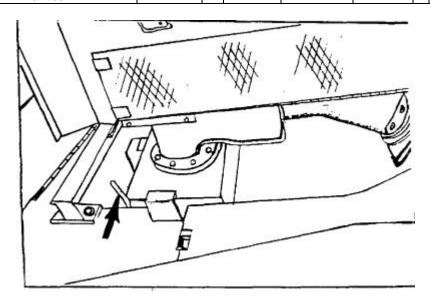


SKETCH NO. 13: MAKE-UP WATER TANK FILLER CAP

C. START THE ENGINE AND RUN AT LOW IDLE. OPEN THE SCRUBBER DRAIN VALVE AND SLOWLY DRAIN SCRUBBER WATER. (NOTE: SCRUBBER DRAIN VALVE HANDLE SHOWN IN SKETCH 14). IMMEDIATELY AFTER THE ENGINE AUTOMATICALLY SHUTS DOWN, CLOSE THE SCRUBBER DRAIN VALVE AND CHECK THE SCRUBBER WATER LEVEL. THIS LEVEL SHOULD BE AT LEAST 7-3/4 INCHES.

TEST SH POWER		TITLE: EM CHECKLIST		MINE SAFETY & HEALTH ADMINISTRATION APPROVED PRINT. NO DEVIATION OR REVISION IS LEGAL UNTIL APPROVED BY MSHA					
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CODE				LOCATION:		NO.	15		
SEE DRG.	В		L.		535A183	13	SHEETS		
					333A103				

JEFFREY	MINING PRODUCTS	JEFFRE 274 EAS COLUM	JEFFREY NEITHER CONTENTS REPRODUC	NTIAL XCLUS THE S A CED, DR P. CON	SIVE MINI E D RE OR ART,	FORM FING RAW: TO D W:	ROF	ON APERTY PROD OR SE LOSE:	OUCTS IT USED	S F · S · N R				
DRAWING NO. 535	SHEET NO. 14		USE THIS	MACHINE A S CHECKLIS aru -7 31-88-	PPROVAL T.				S T	HAT				
DRAWN ROY McKIBBEN	DATE 6/4/85			R E V	A 3/21/86 JVT	B 4/18/97 KRT								
CHECKED ROY McKIBBEN	DATE 6/4/85													



SKETCH NO. 14: SCRUBBER DRAIN VALVE HANDLE

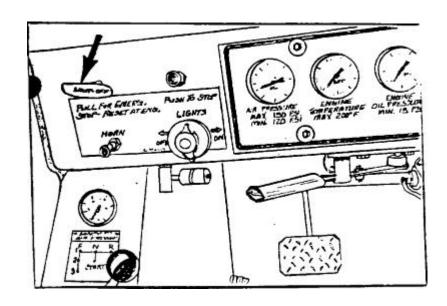
*27. () THE SCRUBBER DIPSTICK PORT PLUG AND THE MAKE-UP WATER TANK FILLER CAP ARE REINSTALLED. THE MAKE-UP WATER TANK AIR SUPPLY VALVE IS REOPENED.

*(WEEKLY) DESIGNATES THOSE INSPECTION CHECKS THAT MUST BE PERFORMED DURING THE WEEKLY MAINTENANCE EXAMINATION IN ACCORDANCE WITH 30 CFR, SECTION 75.1914.

*28. () START THE ENGINE AND OPERATE IT AT MEDIUM SPEED. ENGAGE THE EMERGENCY INTAKE AIR SHUTOFF VALVE HANDLE IN THE OPERATOR'S COMPARTMENT (SEE SKETCH 15). THE ENGINE MUST SHUT DOWN IMMEDIATELY.

TEST SH POWER S		TTLE: EM CHECKLIST		MINE SAFETY & HEALTH ADMINISTRATION APPROVED PRINT. NO DEVIATION OR REVISION IS LEGAL UNTIL APPROVED BY MSHA					
DISTR. CODE SEE DRG.	STD:	SPECIAL:	ENG. SEC	PRINT LOCATION:	DRAWING NUMBER 535A183	SHEET NO. 14	OF 15 SHEETS		

JEFFREY	MINING PRODUCTS	JEFFREY MI 274 EAST 1S COLUMBUS,	JEFFREY NEITHER CONTENTS REPRODUC	NTIA XCLU T S CED, OR C	USIV MIN HE ARE , C PART	NFO E NING DR OR F,	RMA PR G AWII TO DI WII	TION OPEI P:	T AN	OF JCTS. ITS JSED,				
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DRAWN ROY McKIBBEN	DATE 6/4/85			R E V	A 3/21/86 JVT	B 4/18/97 KRT								
CHECKED ROY McKIBBEN	DATE 6/4/85													



SKETCH NO. 15: EMERGENCY STOP VALVE

*29. () RESET EMERGENCY INTAKE AIR SHUTOFF VALVE.

*(WEEKLY) DESIGNATES THOSE INSPECTION CHECKS THAT MUST BE PERFORMED DURING THE WEEKLY MAINTENANCE EXAMINATION IN ACCORDANCE WITH 30 CFR, SECTION 75.1914.

TEST SH POWER S		TTLE: EM CHECKLIST		MINE SAFETY & HEALTH ADMINISTRATION APPROVED PRINT. NO DEVIATION OR REVISION IS LEGAL UNTIL APPROVED BY MSHA					
DISTR. CODE SEE DRG.	STD:	SPECIAL:	ENG. SEC	PRINT LOCATION:	DRAWING NUMBER 535A183	SHEET NO. 15	OF 15 SHEETS		