

**Table B.3(b) Discharge Table for Smooth Nozzles — ½ Inch Through 1 Inch — in Gallons per Minute**  
(Nozzle Pressure Measured by Pitot Gauge)

Nozzle Pressure (psi)	Nozzle Diameter (in.)*					Nozzle Pressure (psi)	Nozzle Diameter (in.)*				
	½	⅝	¾	⅞	1		½	⅝	¾	⅞	1
5	16	26	37	50	66	62	58	90	132	177	233
6	18	28	41	55	72	64	59	92	134	180	237
7	19	30	44	59	78	66	60	93	136	182	240
8	21	32	47	64	84	68	60	95	138	185	244
9	22	34	50	67	89	70	61	96	140	188	247
10	23	36	53	71	93	72	62	97	142	191	251
12	25	40	58	78	102	74	63	99	144	193	254
14	27	43	63	84	110	76	64	100	146	196	258
16	29	46	67	90	118	78	65	101	148	198	261
18	31	49	71	95	125	80	66	103	150	201	264
20	33	51	75	101	132	82	66	104	152	204	268
22	34	54	79	105	139	84	67	105	154	206	271
24	36	56	82	110	145	86	68	107	155	208	274
26	37	59	85	115	151	88	69	108	157	211	277
28	39	61	89	119	157	90	70	109	159	213	280
30	40	63	92	123	162	92	70	110	161	215	283
32	41	65	95	127	167	94	71	111	162	218	286
34	43	67	98	131	172	96	72	113	164	220	289
36	44	69	100	135	177	98	73	114	166	223	292
38	45	71	103	138	182	100	73	115	168	225	295
40	46	73	106	142	187	105	75	118	172	230	303
42	47	74	109	146	192	110	77	121	176	236	310
44	49	76	111	149	196	115	79	123	180	241	317
46	50	78	114	152	200	120	80	126	183	246	324
48	51	80	116	156	205	125	82	129	187	251	331
50	52	81	118	159	209	130	84	131	191	256	337
52	53	83	121	162	213	135	85	134	195	262	343
54	54	84	123	165	217	140	87	136	198	266	350
56	55	86	125	168	221	145	88	139	202	271	356
58	56	87	128	171	225	150	90	141	205	275	362
60	57	89	130	174	229						

Note: 1 mm = 0.03937 in.; 1 kPa = 0.1450 psi; 1 gpm = 3.785 L/min.

\*Assumed coefficient of discharge = 0.985, 0.988, 0.988, 0.99.

**Table B.3(c) Discharge Table for Smooth Nozzles — 1½ Inch Through 1⅝ Inch — in Gallons per Minute**  
(Nozzle Pressure Measured by Pitot Gauge)

Nozzle Pressure (psi)	Nozzle Diameter (in.)*					Nozzle Pressure (psi)	Nozzle Diameter (in.)*				
	1½	1¼	1⅜	1½	1⅝		1½	1¼	1⅜	1½	1⅝
5	84	103	125	149	175	62	295	363	441	525	617
6	92	113	137	163	192	64	299	369	448	533	627
7	99	122	148	176	207	66	304	375	455	542	636
8	106	131	158	188	222	68	308	381	462	550	646
9	112	139	168	200	235	70	313	386	469	558	655
10	118	146	177	211	248	72	318	391	475	566	665
12	130	160	194	231	271	74	322	397	482	574	674
14	140	173	210	249	293	76	326	402	488	582	683
16	150	185	224	267	313	78	330	407	494	589	692
18	159	196	237	283	332	80	335	413	500	596	700
20	167	206	250	298	350	82	339	418	507	604	709
22	175	216	263	313	367	84	343	423	513	611	718
24	183	226	275	327	384	86	347	428	519	618	726
26	191	235	286	340	400	88	351	433	525	626	735
28	198	244	297	353	415	90	355	438	531	633	743
30	205	253	307	365	429	92	359	443	537	640	751
32	212	261	317	377	443	94	363	447	543	647	759
34	218	269	327	389	457	96	367	452	549	654	767
36	224	277	336	400	470	98	370	456	554	660	775
38	231	285	345	411	483	100	374	461	560	667	783
40	237	292	354	422	496	105	383	473	574	683	803
42	243	299	363	432	508	110	392	484	588	699	822
44	248	306	372	442	520	115	401	495	600	715	840
46	254	313	380	452	531	120	410	505	613	730	858
48	259	320	388	462	543	125	418	516	626	745	876
50	265	326	396	472	554	130	427	526	638	760	893
52	270	333	404	481	565	135	435	536	650	775	910
54	275	339	412	490	576	140	443	546	662	789	927
56	280	345	419	499	586	145	450	556	674	803	944
58	285	351	426	508	596	150	458	565	686	817	960
60	290	357	434	517	607						

Note: 1 mm = 0.03937 in.; 1 kPa = 0.1450 psi; 1 gpm = 3.785 L/min.

\*Assumed coefficient of discharge = 0.99, 0.99, 0.993, 0.995, 0.995.



**Table B.3(d) Discharge Table for Smooth Nozzles — 1¾ Inch Through 2½ Inch— in psi (Nozzle Pressure Measured by Pitot Gauge)**

Nozzle Pressure (psi)	Nozzle Diameter (in.)*					Nozzle Pressure (psi)	Nozzle Diameter (in.)*				
	1¾	1⅞	2	2¼	2½		1¾	1⅞	2	2¼	2½
5	203	234	266	337	416	62	716	823	936	1187	1464
6	223	256	292	369	455	64	727	836	951	1206	1487
7	241	277	315	399	492	66	738	850	965	1224	1510
8	257	296	336	427	526	68	750	862	980	1242	1533
9	273	314	357	452	558	70	761	875	994	1260	1555
10	288	330	376	477	588	72	771	887	1008	1278	1577
12	315	362	412	522	644	74	782	900	1023	1296	1599
14	340	391	445	564	695	76	792	911	1036	1313	1620
16	364	418	475	603	744	78	803	924	1050	1330	1642
18	386	444	504	640	789	80	813	935	1063	1347	1663
20	407	468	532	674	831	82	823	946	1076	1364	1683
22	427	490	557	707	872	84	833	959	1089	1380	1704
24	446	512	582	739	911	86	843	970	1102	1396	1724
26	464	533	606	769	948	88	853	981	1115	1412	1744
28	481	554	629	799	984	90	862	992	1128	1429	1763
30	498	572	651	826	1018	92	872	1002	1140	1445	1783
32	514	591	673	854	1051	94	881	1012	1152	1460	1802
34	530	610	693	880	1084	96	890	1022	1164	1476	1821
36	546	627	713	905	1115	98	900	1032	1176	1491	1840
38	561	645	733	930	1146	100	909	1043	1189	1506	1859
40	575	661	752	954	1176	105	932	1070	1218	1542	1905
42	589	678	770	978	1205	110	954	1095	1247	1579	1950
44	603	694	788	1000	1233	115	975	1120	1275	1615	1993
46	617	710	806	1021	1261	120	996	1144	1303	1649	2036
48	630	725	824	1043	1288	125	1016	1168	1329	1683	2078
50	643	740	841	1065	1314	130	1036	1191	1356	1717	2119
52	656	754	857	1087	1340	135	1056	1213	1382	1750	2160
54	668	769	873	1108	1366	140	1076	1235	1407	1780	2199
56	680	782	889	1129	1391	145	1095	1257	1432	1812	2238
58	692	796	905	1149	1416	150	1114	1279	1456	1843	2277
60	704	810	920	1166	1440						

Note: 1 mm = 0.03937 in.; 1 kPa = 0.1450 psi; 1 gpm = 3.785 L/min.

\*Assumed coefficient of discharge = 0.995, 0.996, 0.997, 0.997, 0.997.

**Table B.3(e) Nozzle Factors**

Diameter of the Nozzle (in.)	Factors (F)	
	Freshwater	Saltwater (Seawater)
2	119	117
2¼	150	148
2½	186	183
2¾	225	222
3	267	264
3¼	314	310
3½	364	359
3¾	418	413
4	476	470
4¼	537	530
4½	602	594
4¾	671	662
5	743	734
6	1070	1057

Note: 1 mm = 0.03937 in.

**B.5 Effect of Altitude.** When drafting water, the pump produces a partial vacuum in the suction hose, and the atmospheric pressure on the surface of the water forces water into the suction hose and the pump. As the elevation above sea level of the pumping site increases, the atmospheric pressure decreases. The loss of lift at various elevations is given in Table B.5.

The data in Table B.5 assume that the engine of the apparatus is adequate at all elevations. However, the available power for driving a pump from naturally aspirated gasoline engines decreases about 4 percent (up to 3 percent for diesel engines that are naturally aspirated) for each 1000 ft (305 m) of elevation. Therefore, a gasoline engine that was just adequate at sea level would be about 35 percent deficient at a 7000 ft (2135 m) altitude.

A difference in atmospheric pressure due to weather conditions will have the same result as a change in altitude. The difference in atmospheric pressure due to operation on a rainy day instead of a cool, clear day could easily mean a 1 ft (0.3 m) difference in lift.

**Table B.5 Loss of Lift at Various Elevations**

Elevation Above Sea Level		Loss of Lift (Water)	
ft	m	ft	m
1000	305	1.22	0.37
2000	610	2.38	0.73
3000	915	3.50	1.07
4000	1220	4.75	1.45
5000	1525	5.80	1.77
6000	1830	6.80	2.07
7000	2135	7.70	2.35

## ▲ Annex C Developing a Preventive Maintenance Program

*This annex is not a part of the requirements of this NFPA document but is included for informational purposes only.*

**C.1 General.** Fire apparatus are increasingly complex pieces of machinery that require regular preventive maintenance to keep them safe and reliable and to maximize their life and value. It is not enough just to repair problems when they occur or to perform maintenance when it is convenient or someone thinks to have it done. In order to keep a fleet of fire apparatus in good condition, a good plan is necessary to ensure that all the required maintenance is performed.

Fire departments vary widely in their character, and thus in their requirements of a preventive maintenance program. At one end might be a small rural volunteer fire department with two pieces of apparatus and five runs per month. At the other end might be a large city with several hundred pieces of apparatus, each of which makes 10 or more runs per day. While the specifics of the preventive maintenance program for each department will be different, the goals in each should be to ensure that all the necessary preventive maintenance is performed to make certain that the apparatus is ready and safe for responding to an emergency when needed. It is important that each department develop a program appropriate for its apparatus, circumstances, resources, capabilities, and special circumstances.

This annex is designed to provide some guidance to a fire department in developing a plan to ensure that the preventive maintenance program performs all the necessary work needed to keep the apparatus in top condition.

Many departments already have a very effective preventive maintenance program in place. If the existing program works for the department and meets the requirements of this standard, then no changes are needed. If a department does not have a program in place, or their program is not meeting the requirements of this standard, then this annex can help guide the department through the process of setting up an effective preventive maintenance program.

**C.2 Resources.** Part of preparing a preventive maintenance program is to identify the resources that are available for maintenance and testing. A large city department might have extensive resources in a fire department or city public works shop. Even in such a department, some work, such as transmission overhauls and body work, might be sent to outside service facilities. The fire fighters and driver/operators who operate the equipment on a regular basis can, in most cases, perform daily or weekly operational checks.

In many areas of the country there are businesses that specialize in servicing fire apparatus. There are also businesses and organizations that specialize in testing fire apparatus, especially specific components, such as aerial devices and pumps. Many fire apparatus dealers and manufacturers have personnel qualified to perform many service tasks. These services often can be performed in the fire station with mobile service trucks. Qualified personnel who perform service on other types of heavy trucks can perform many types of service on fire apparatus, especially on components common with heavy trucks, such as drivetrains and suspensions. Many departments, especially volunteer departments, might find that they have personnel in the department who are qualified to do some of the required maintenance. These resources can be used to perform some of the maintenance and reduce costs.

It is helpful to identify not only the resources that will perform routine preventive maintenance and testing but also resources to perform emergency repairs. If such resources are not available

within the fire department or city public works shop, these resources should be identified in advance, including establishing financial arrangements and 24-hour contact information, if possible. Services that should be included are as follows:

- (1) Towing
- (2) Tire service or replacement
- (3) Provision of fuel and lubricants
- (4) Repair of engine and drivetrain problems
- (5) Repair of pump or plumbing problems
- (6) Repair of fire service components, such as rescue tools
- (7) Supplying replacement hose, tools, gear, and equipment damaged at an incident

In any case, it is up to the department and the AHJ to determine that the persons and facilities selected for maintenance and testing are qualified for the work they perform. Section 4.3 provides some requirements on the qualification of personnel.

**C.3 Form and Format.** The information needed for an effective preventive maintenance program can take many forms. It is important that the information is easy to keep updated as apparatus are replaced, and that it is easy for the fire department and the maintenance providers to use. Typically there are two types of information needed when establishing the preventive maintenance program. The first is when maintenance is needed, and the second is what maintenance tasks should be performed and, if necessary, how they should be performed.

Scheduled preventive maintenance activities are typically based on time (every 3 months, every 6 months, annually, and every 5 years) or a specified number of hours of operation.

Small departments might want to prepare a list, by month, of which apparatus is due for service and which service is to be performed at that time. It is important that the schedule be updated whenever a piece of apparatus is added or removed. Larger departments might find it more functional to prepare a schedule by month or by number of hours for each piece of apparatus.

There are many software programs available to assist in tracking maintenance schedules. Some vehicle record systems might even be available as a free download.

Operational checks that are to be performed at the start of each day, shift, or week are usually best documented with a check sheet to be used by the station crew. An example check sheet is shown in Figure C.3(a). It should be adapted for each specific piece of apparatus.

The documentation of which maintenance tasks should be performed at other intervals might be done in many ways. Simple tasks might be listed on the schedule. More extensive lists of tasks are often best put into a check sheet that the technician can use during the inspection and servicing process. An example of such a check sheet is shown in Figure C.3(b). This is just an example that must be customized to meet the requirements for specific apparatus and department policies.

The performance testing described in Chapters 16 through 23 of this standard should be included in the maintenance schedule. The details of how to perform the testing, and the information that is to be collected, are detailed in those chapters. Figure C.3(c) is a form that can be used to record the performance test results for a fire pump or industrial supply pump. Figure C.3(d) is a form that can be used to record the inspection and performance test results for an aerial device. Figure C.3(e) is a form that can be used to record the performance test results for the low-voltage electrical system on the fire apparatus, and Figure C.3(f) is a form that can be used to record the performance test results for a line voltage electrical system. Figure C.3(g) is a form that can be used to record the performance test results for a foam proportioning system and, if the apparatus also has a CAFS compressor system, Figure C.3(h) is the form for recording the performance test results for that system.



### DAILY/WEEKLY WALK-AROUND CHECK FOR MOBILE FIRE APPARATUS

Fire department name \_\_\_\_\_ Date \_\_\_\_\_

Apparatus no. \_\_\_\_\_ Station no. \_\_\_\_\_

Start mileage \_\_\_\_\_ End mileage \_\_\_\_\_ Start engine hours \_\_\_\_\_ End engine hours \_\_\_\_\_

Inspectors: Mon \_\_\_\_\_ Tue \_\_\_\_\_ Wed \_\_\_\_\_ Thur \_\_\_\_\_ Fri \_\_\_\_\_ Sat \_\_\_\_\_ Sun \_\_\_\_\_

Legend: X = OK

R = Repair required (requires a comment regarding problem)

OPERATIONS	Mon	Tue	Wed	Thur	Fri	Sat	Sun
<b>Engine</b>							
1. Check engine oil and transmission level.							
2. Check engine coolant level.							
3. Check for integrity of frame and suspension.							
4. Check power steering fluid.							
<b>Outside</b>							
1. Check for fluid leaks under vehicle.							
2. Check steering shafts and linkages.							
3. Check wheels and lug nuts.							
4. Check tire condition.							
5. Check tire air pressure.							
<b>Cab</b>							
1. Check seats and seat belts.							
2. Start engine, check all gauges.							
3. Check windshield wipers.							
4. Check rear view mirror adjustment and operation.							
5. Check horn.							
6. Check steering shafts.							
7. Check cab glass and mirrors.							
<b>Body</b>							
1. Check steps and running boards.							
2. Check body condition.							
3. Check grab handles.							
<b>Electric</b>							
1. Check battery voltage and charging system voltage.							
2. Check line voltage system.							
3. Check all lights (ICC and warning).							

**FIGURE C.3(a) Daily/Weekly Apparatus Check Form.**

OPERATIONS	Mon	Tue	Wed	Thur	Fri	Sat	Sun
<b>Brakes</b>							
1. Check air system for proper air pressure.							
2. Check parking brake.							
3. Check hydraulic brake fluid level.							
<b>Pump</b>							
1. Operate pump, check pump panel engine gauges.							
2. Check pump for pressure operation.							
3. Check discharge relief or pressure governor operation.							
4. Check all pump drain valves.							
5. Check all discharge and intake valve operation.							
6. Check pump and tank for water leaks.							
7. Check all valve bleeder/drain operation.							
8. Check primer pump operation.							
9. Check system vacuum hold.							
10. Check water tank level indicator.							
11. Check primer oil level (if applicable).							
12. Check transfer valve operation (if equipped).							
13. Check booster reel operation (if equipped).							
14. Check all pump pressure gauge operation.							
15. Check all cooler valves.							
16. Check for oil leaks in pump area.							
<b>Aerial</b>							
1. Operate aerial hydraulics.							
2. Check aerial outrigger operation.							
3. Check aerial operation.							
4. Check aerial hydraulic fluid level.							
5. Visually inspect aerial structure.							
Comments _____							
_____							
_____							
_____							
_____							
_____							

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FIGURE C.3(a) *Continued*

## QUARTERLY/ANNUAL MOBILE FIRE APPARATUS INSPECTION REPORT

Inspection date \_\_\_\_\_

Fire department \_\_\_\_\_ Apparatus no. \_\_\_\_\_

**Apparatus**

Manufacturer \_\_\_\_\_

Model \_\_\_\_\_

Serial no. \_\_\_\_\_

Hourmeter \_\_\_\_\_

**Chassis**

Make \_\_\_\_\_

Model \_\_\_\_\_

VIN \_\_\_\_\_

Odometer \_\_\_\_\_

**Legend:**

X = Acceptable visually, checked    R = Requires repair or adjustment  
 U = Unsafe condition requires repair prior to use    C = Corrected    NA = Not applicable

**CHASSIS INSPECTION****Engine and Cooling Systems**

\_\_\_\_\_ Oil level and condition

\_\_\_\_\_ Oil leaks

\_\_\_\_\_ Coolant level

\_\_\_\_\_ Antifreeze protection

\_\_\_\_\_ Coolant additive level

\_\_\_\_\_ Fuel system for leaks

\_\_\_\_\_ Fuel system plumbing condition

\_\_\_\_\_ Power steering fluid level

\_\_\_\_\_ Power steering pump and plumbing

\_\_\_\_\_ Coolant hose condition and leaks

\_\_\_\_\_ Alternator mounting brackets

\_\_\_\_\_ Alternator connections

\_\_\_\_\_ Charging system output \_\_\_\_\_ volts

\_\_\_\_\_ Auxiliary cooler connections

\_\_\_\_\_ Battery condition and hold downs

\_\_\_\_\_ Battery cables and clamps

\_\_\_\_\_ Battery fluid level

\_\_\_\_\_ Battery terminal voltage \_\_\_\_\_ volts

\_\_\_\_\_ Chassis grounds and connections

\_\_\_\_\_ Starter motor cable condition

\_\_\_\_\_ Starter motor operation

\_\_\_\_\_ Fan mounting bolts and adjustment

\_\_\_\_\_ Fan shroud clearance and condition

\_\_\_\_\_ Fan clutch or shutters operation

\_\_\_\_\_ Air filter element condition

\_\_\_\_\_ Air intake tubes and hoses

\_\_\_\_\_ All belts condition and adjustment

\_\_\_\_\_ After-cooler or intercooler tubes and hoses

\_\_\_\_\_ Motor mount condition

\_\_\_\_\_ Radiator cap pressure

Comments on engine and cooling systems inspection \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

FIGURE C.3(b) Quarterly/Annual Apparatus Inspection Report.

**Chassis and Components***Fluid levels*

- \_\_\_\_ Lubricate chassis
- \_\_\_\_ All fluid levels

*Steering*

- \_\_\_\_ Steering linkage and tie rods
- \_\_\_\_ Steering box mounting
- \_\_\_\_ Steering system plumbing for leaks
- \_\_\_\_ Manual steering box fluid level

*Transmission*

- \_\_\_\_ Auto trans fluid level
- \_\_\_\_ Auto trans mounting and condition
- \_\_\_\_ Auto trans and plumbing for leaks
- \_\_\_\_ Auto trans lockup system
- \_\_\_\_ Manual trans oil level
- \_\_\_\_ Manual trans mounting
- \_\_\_\_ Manual trans for leaks

*Fuel*

- \_\_\_\_ Fuel tank and plumbing for leaks
- \_\_\_\_ Fuel tank mounting

*Tires/Wheels*

- \_\_\_\_ Tire and wheel conditions
- \_\_\_\_ Lug nuts for torque
- \_\_\_\_ Tire tread depth      Front \_\_\_\_ Rear \_\_\_\_
- \_\_\_\_ Tire air pressure      Front \_\_\_\_ Rear \_\_\_\_

*Driveline*

- \_\_\_\_ Driveline U-joints and yokes
- \_\_\_\_ Driveline carrier bearings
- \_\_\_\_ Differential oil level and leaks

Comments on chassis and components inspection \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

*Front axle*

- \_\_\_\_ Front spring and shock condition
- \_\_\_\_ Front wheel bearings and king pins

*Rear axle*

- \_\_\_\_ Rear spring condition
- \_\_\_\_ Rear spring torque tubes and shocks
- \_\_\_\_ Axle flanges for leaks and tightness
- \_\_\_\_ Frame rails and cross members

*Brakes*

- \_\_\_\_ Brake condition (amount of material)
- \_\_\_\_ Brake adjustment and operation
- \_\_\_\_ Air brake valves and tanks
- \_\_\_\_ Lubricate brake pedal pivot pin
- \_\_\_\_ Drain air tanks and check air dryer
- \_\_\_\_ Air brake lines and chambers
- \_\_\_\_ Air brake leaks and buildup
- \_\_\_\_ Hydraulic brakes for leaks
- \_\_\_\_ Hydraulic brake components
- \_\_\_\_ Hydro-vac operation and mounting
- \_\_\_\_ Parking brake operation

*Exhaust system*

- \_\_\_\_ Exhaust system and muffler

FIGURE C.3(b) *Continued*



**Cab and Body***Cab*

- \_\_\_\_\_ Cab mounting and tilt mechanism
- \_\_\_\_\_ Cab frame and sheet metal
- \_\_\_\_\_ Cab hoist motor solenoid volt drop \_\_\_\_\_ volts
- \_\_\_\_\_ Door mounting and latches
- \_\_\_\_\_ Cab glass condition
- \_\_\_\_\_ Cab seat condition and mounting
- \_\_\_\_\_ Seat belt condition and mounting
- \_\_\_\_\_ Steering wheel mounting and alignment
- \_\_\_\_\_ Horn operation
- \_\_\_\_\_ Heater and defroster operation
- \_\_\_\_\_ Throttle controls and linkage
- \_\_\_\_\_ Window operation

- \_\_\_\_\_ Auto transmission shift controls
- \_\_\_\_\_ Manual transmission shift controls
- \_\_\_\_\_ Clutch pedal linkage
- \_\_\_\_\_ Clutch pedal free play
- \_\_\_\_\_ Windshield wipers and washers
- \_\_\_\_\_ Mirror condition and mounting

*Body*

- \_\_\_\_\_ Compartment door latches
- \_\_\_\_\_ Compartment door and hinge condition
- \_\_\_\_\_ Body compartment condition
- \_\_\_\_\_ Step and auxiliary equipment condition

Comments on cab and body inspection \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Cab and Body Electrical**

- \_\_\_\_\_ Headlights and high beams
- \_\_\_\_\_ Parking and clearance lights
- \_\_\_\_\_ Tail and stop lights
- \_\_\_\_\_ Backup lights and alarm
- \_\_\_\_\_ Turn signal and hazard operation
- \_\_\_\_\_ Cab spot lights operation
- \_\_\_\_\_ Auxiliary light operation
- \_\_\_\_\_ Front warning lights
- \_\_\_\_\_ Rear warning lights
- \_\_\_\_\_ Front beacon lights
- \_\_\_\_\_ Intersection warning lights
- \_\_\_\_\_ Body deck lights

- \_\_\_\_\_ Compartment lights
- \_\_\_\_\_ Siren operation and mounting
- \_\_\_\_\_ Siren solenoid voltage drop \_\_\_\_\_ volts
- \_\_\_\_\_ Voltage drops of all solenoids

List solenoids and voltage drop below

Solenoid	Voltage Drop

Comments on cab and body electrical inspection \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

FIGURE C.3(b) *Continued*



**Line Voltage Inspection**

- |   |   |
|---|---|
| <input type="checkbox"/> Power source                               | <input type="checkbox"/> Electrical controls        |
| <input type="checkbox"/> Generator drive engine or power drivetrain | <input type="checkbox"/> Output voltage _____ volts |
| <input type="checkbox"/> Cord reels and receptacles                 | <input type="checkbox"/> Output frequency _____ Hz  |
| <input type="checkbox"/> Electrically driven equipment              |   |

Comments on line voltage electrical inspection \_\_\_\_\_

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**Road and Operational Test**

- |   |  |
|---|--|
| <input type="checkbox"/> Engine oil pressure          | <input type="checkbox"/> Drive line vibration            |
| <input type="checkbox"/> Engine coolant temperature   | <input type="checkbox"/> Air compressor operation        |
| <input type="checkbox"/> Tachometer operation         | <input type="checkbox"/> Air compressor governor setting |
| <input type="checkbox"/> Auto transmission shifting   | <input type="checkbox"/> Speedometer operation           |
| <input type="checkbox"/> Clutch release and operation | <input type="checkbox"/> Shimmy or front end noises      |
| <input type="checkbox"/> Manual transmission shifting | <input type="checkbox"/> Clutch fan or shutter operation |
| <input type="checkbox"/> Brake operation              |  |

Comments on road and operational test \_\_\_\_\_

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**PUMP AND WATER TANK INSPECTION**

Pump manufacturer \_\_\_\_\_ Model \_\_\_\_\_ S/N \_\_\_\_\_

Pump location \_\_\_\_\_ Pump hours \_\_\_\_\_ Capacity \_\_\_\_\_

- |   |   |
|---|---|
| <input type="checkbox"/> Pump shift and indicator lights              | <input type="checkbox"/> Engine speed counter                           |
| <input type="checkbox"/> Automatic transmission lockup system         | <input type="checkbox"/> Pump panel electrical switches and panel light |
| <input type="checkbox"/> Clutch disengagement and manual transmission | <input type="checkbox"/> Master gauges for accuracy and operation       |
| <input type="checkbox"/> Pump transmission shift cylinders or motor   | <input type="checkbox"/> Discharge gauges for accuracy and operation    |
| <input type="checkbox"/> Pump transmission oil level and condition    | <input type="checkbox"/> Water tank indicator system                    |
| <input type="checkbox"/> Pump panel tachometer and engine gauges      | <input type="checkbox"/> Pump   |

FIGURE C.3(b) *Continued*

- |  |  |
|--|--|
| <input type="checkbox"/> Pump plumbing   | <input type="checkbox"/> Drain valves  |
| <input type="checkbox"/> High-pressure pump system                                     | <input type="checkbox"/> Tank-to-pump and tank fill valves                           |
| <input type="checkbox"/> Pressure control device operation and response time           | <input type="checkbox"/> Auxiliary cooler  |
| <input type="checkbox"/> Transfer valve operation                                      | <input type="checkbox"/> Suction strainer  |
| <input type="checkbox"/> Intake relief operation                                       | <input type="checkbox"/> Preconnect valves and plumbing                              |
| <input type="checkbox"/> Primer operation  | <input type="checkbox"/> Deck gun valve and plumbing                                 |
| <input type="checkbox"/> Dry vacuum test   | <input type="checkbox"/> Front or rear suction valves and plumbing and valves        |
| Initial reading <input type="text"/> in. vacuum  | <input type="checkbox"/> Auto-lube level and fluid condition                         |
| Leakage in 5 minutes <input type="text"/> in. vacuum                                   | <input type="checkbox"/> Water tank mounting and integrity                           |
| <input type="checkbox"/> Primer motor solenoid voltage drop <input type="text"/> volts | <input type="checkbox"/> Booster reel mounting and operation                         |
| <input type="checkbox"/> Pump packing— adjust if necessary                             | <input type="checkbox"/> Anodes in tank and pump                                     |
| <input type="checkbox"/> Mechanical seals for leaks                                    | <input type="checkbox"/> Reel motor solenoid voltage drop <input type="text"/> volts |
| <input type="checkbox"/> Discharge and intake valves                                   | <input type="checkbox"/> Pump mounting integrity                                     |
| <input type="checkbox"/> Valves, linkage, remote rods, and pivot points                | <input type="checkbox"/> Pump driveline U-joints, yokes and flanges                  |

Comments on pump and tank inspection \_\_\_\_\_

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### FOAM PROPORTIONING SYSTEM INSPECTION

- Foam system manufacturer \_\_\_\_\_ Model \_\_\_\_\_ S/N \_\_\_\_\_
- |  |   |
|--|---|
| <input type="checkbox"/> Instrumentation, gauges, and controls | <input type="checkbox"/> Hydraulic system                               |
| <input type="checkbox"/> Strainer or filter                    | <input type="checkbox"/> Hydraulic fluid tank mounting and integrity    |
| <input type="checkbox"/> Foam concentrate pump                 | <input type="checkbox"/> Foam concentrate tank mounting and integrity   |
| <input type="checkbox"/> Lubricant level and condition         | <input type="checkbox"/> Foam eductor system, metering, and check valve |
| <input type="checkbox"/> Hydraulic pump                        |   |

Comments on foam proportioning system inspection \_\_\_\_\_

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FIGURE C.3(b) *Continued*