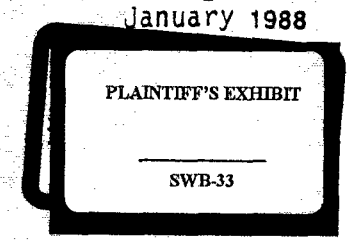
Southwestern Bell Telephone Company
Joint Practice No. 28
Southwestern Bell Telephone Accident Prevention Plan

Review Package No. 6
January 1988



KEY POINT REFERENCE BOOK

OUTSIDE CRAFT

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The information in the Key Point Reference Sheets is intended to highlight the safety requirements for various work operations. Specific information on the individual subjects must be obtained from the associated company practice.

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DESCRIPTION OF REVIEW PACKAGE NUMBER 6

1 REFERENCE BOOK 6

1.1 Key Point Reference Book 6 contains the key points for each question and/or demonstration item listed on the Safety Knowledge Review/Work Observation Card 6.

1.2 More detailed information is available by consulting the appropriate Company Practice or policy letter listed before each subject covered.

1.3 A blue pocket folder is provided with each Key Point Reference Book for use by the supervisor. The folder is intended to carry the Key Point Reference Book and sufficient Safety Knowledge Review/Work Observation Cards for each employee in the supervisor's work group.

2 SAFETY KNOWLEDGE REVIEW/OBSERVATION CARD 6 (SW6726)

2.1 Each Safety Knowledge Review/Work Observation Card 6 is a one year record of one employee's safety knowledge review results and work observations.

(a) Space is provided to schedule and document completion of safety knowledge reviews, follow up checks and inspections as well as notations of completed work observations.

(b) Space is also provided for upper level management's participation in safety knowledge reviews and work observation.

(c) OTHER space number 193 is to be used to review additional safety items that are not listed. These may include local safety rules and policy letter, etc.

2.2 The front of Card 6 (Fig. 1) provides space for the employee's name and job title, the year of coverage and the supervisor's name.

(a) Documentation of work observations are made in the space provided as noted:

2.201 If the work observation was completely satisfactory, enter the month and day (e.g., 7/14) that the observation was performed. (See Fig. 1)

2.202 For each deviation noted, the date, subject and a brief explanation of the deviation and the corrective action taken should be noted in the Identify Deviations space.

2.203 All deviation require immediate, on-the-spot training.

2.204 The required work observations should be recorded for each employee per the district plan. (All deviations must be recorded.)

2.2041 Space is available in the top left corner for upper management to document work observations.

2.3 The back of Card 6 (Fig. 2) provides space for scheduling, completion and documentation of safety knowledge reviews, follow ups and inspections.

3 SCHEDULING TECHNIQUES

3.1 At least once a year, each employee shall be covered with each safety knowledge review or appropriate work observation that pertains to the task(s) or work procedure(s) which the employee may be called upon to perform.

3.2 One method of scheduling safety knowledge reviews is listed below:

(a) Beginning with the number 1, assign a consecutive number to each employee in the first level work group.

(b) Using Fig. 3, schedule the safety knowledge review subjects by month as indicated in the schedule/complete column.

(c) The actual schedule for employee No. 1 is shown in Fig. 2.

(d) Schedule the remaining employees in the work group by using this procedure.

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NOTE: Supervisors in the various outside crafts should schedule safety subjects for safety knowledge reviews that specifically pertain to their reporting people.

Safety subjects not applicable to normal work assignments should be marked (NA).

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SAFETY KNOWLEDGE REVIEWS

Documentation of safety knowledge reviews is made in the spaces provided on the back of the card. Entries should be made in pencil so changes may be made as required.

(a) OK Column: Place a mark in this space when the employee's demonstration and/or explanation of the specific item is fully correct and no errors are made.

If the employee demonstrates safety knowledge by the manner in which a task is performed, the supervisor should consider the demonstration as proof that the employee does have the knowledge to perform the task safely.

(b) DEV Column: Place a mark in this space when the employee does not demonstrate and/or explain the specific item correctly.

4.101 Retrain the employee before concluding the subject being reviewed.

4.102. Schedule a follow-up check of the DEV item(s) within the next three months in the following sch/comp. column.

Sch/comp. column: Mark the review subject completion by month and day.

FOLLOW-UP

5.1 A follow-up is a reexamination of a deviated item noted during the initial safety knowledge review.

(a) If an employee correctly demonstrates and/or explains the previously deviated safety item, place a mark in the Follow-Up OK column.

(b) Follow-Up Sch/com/ Column: mark the follow-up completion by month and day.

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Figure 1 (Example)

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Retention Until Superseded
Joint Practice No. 28

Work Observations

Date	Subj. No.	Initials	Mgt Level	Date	Subj. No.	Initials	Mgt Level
[illegible]	[illegible] WAP	FJC	2				
2/16	4 Tools	RN	3				
4/22	2 Eye	JR	4				

Date	Subj No	Deviation & Corrective Action

Work Observations

Date	Subj. No.	Initials	Mgt Level	Date	Subj. No.	Initials	Mgt Level

	Work Observations	Record Month And Day (7/12)								
		OK	OK	OK	OK	OK	OK	Dev	Dev	Dev
16	Electrical Hazards			5/2					7/28	
17	Body Belt									
18	Climbers			6/12						
19	Climbing Skills									
20	Working Aloft	1/30								
21	Derricks	1/18								
22	Trenching									
23	Manholes									
24	Buried Plant	2/20								
25	Breakdown									
26	Light Wave									
27	Nitrogen	3/8								
28	MAPP Gas									
29	Acetylene									
30	Propane									
31	Asbestos				7/14					
32	Other									
33	Motor Vehicle							6/20		

Date	Subj No	Deviation & Corrective Action

Review-Package 6
SAFETY KNOWLEDGE
REVIEW/WORK OBSERVATION CARD

SW6726
Page 1 of 2
(6-85)

Employee Name: Art Reinhardt

Job Title: Cable Splicing Technician

Year: 1984

Supervisor: F. Ashe

	Work Observations	Record Month And Day (7/12)								
		OK	OK	OK	OK	OK	OK	Dev	Dev	Dev
1	Work Area Protection	3/6			7/12					
2	Eye Protection	1/3	4/20							
3	Hard Hat			4/17					5/5	
4	Hand Tools				5/8					
5	Power Tools									
6	Aerial Platform	2/10								
7	Lifting		5/21						3/6	
8	Stilts									
9	Rope		4/12							
10	Stepladder									
11	Ext. Ladder							2/10		
12	Tree Trimming									
13	Encapsulants								8/1	
14	Lead Exposure									
15	PCB									

Date	Subj. No.	Deviation & Corrective Action
2/10	11	Improperly Tied Review BSAPP #64
3/6	7	Used Back Review BSAPP #32 36
5/5	3	Not Wearing Review BSAPP #11
6/20	33	Emerg Brake Not Set Review BSAPP Pkg 16
7/28	16	Driving Ground Rod No Insulating Gloves Review BSAPP #85
8/1	13	Mixing Encapsulant No Goggles Review BSAPP #73

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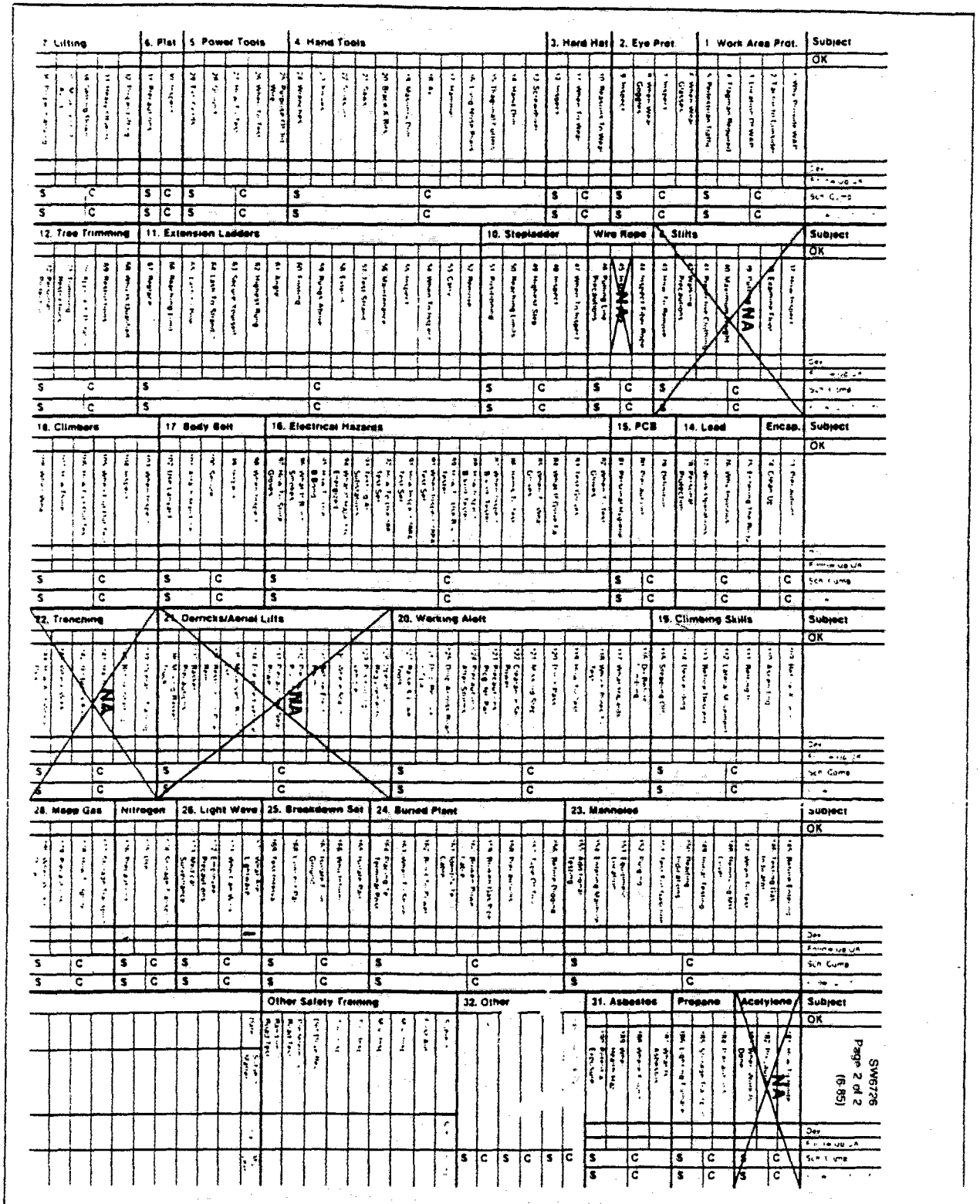
Figure 2 (Example)



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SAMPLE REVIEW SCHEDULE
FIGURE 3

EMPLOYEE 1 & 7	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	July
EMPLOYEE 2 & 8	Feb	Mar.	Apr.	May	June	July	Aug.	Sept.	Jan.	Aug.
EMPLOYEE 3 & 9	Mar.	Apr.	May	June	July	Aug.	Sept.	Jan.	Feb.	Sept.
EMPLOYEE 4 & 10	Apr.	May	June	July	Aug.	Sept.	Jan.	Feb.	Mar.	Oct.
EMPLOYEE 5 & 11	May	June	July	Aug.	Sept.	Jan.	Feb.	Mar.	Apr.	Nov.
EMPLOYEE 6 & 12	June	July	Aug.	Sept.	Jan.	Feb.	Mar.	Apr.	May	Dec.

Subject Number	Subject										
1	Work Area Protection			X							
2	Eye Protection						X				
3	Hard Hat						X				
4	Hand Tools		X								
5	Power Tools		X								
6	Platforms						X				
7	Lifting								X		
8	Stilts	X									
9	Rope, Wire (Fiber)	X									
10	Stepladder				X						
11	Extension Ladder				X						
12	Tree Trimming		X								
13	Encapsulants						X				
14	Lead Exposure						X				
15	PCB						X				
16	Electrical Hazards			X							
17	Body Belt	X									
18	Climbers	X									
19	Climbing Skills									X	
20	Working, Aloft									X	
21	Derricks/Aerial Lifts								X		
22	Vehicle Trenching								X		
23	Manholes					X					
24	Buried Plant					X					
25	Breakdown							X			
26	Lightwave Transmission							X			
27	Nitrogen							X			
28	MAPP Gas							X			
29	Acetylene Gas							X			
30	Propane Gas							X			
31	Asbestos									X	
32	Other										
	Motor Vehicle Inspection	X									X
	Tool Inspection	X									
	Defensive Driving Review	X									
	Predetermined Road Test	X									
	Random Road Test										

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EXPLANATIONS
"D" = Demonstrate
"E" = Explain
"ANSI" = American National Standards Institute
CEF = Cable Entrance Facility

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WORK AREA PROTECTION

References - 081-200-102 Flashes
081-200-105 Traffic Cones
620-135-010 Guarding Work Areas
620-135-100 Warning Devices Description and Use

E 1. Why must you provide work area protection?

- For the protection of employees, equipment and the public with minimum interference to traffic or pedestrians.

E 2. What factors are to be considered in establishing work area protection?

- Location of work site.
- Type of road (multi-lane, one-way, etc.).
- Speed of traffic.
- Time of day (light versus darkness).
- Weather conditions (snow, ice, rain, etc.).
- State and local laws.

D E 3. How should work area protection be placed?

- The initial warning sign should be placed first, an appropriate distance from the work site.
- Up to 45 MPH x Seven = Placement of MWS.
- Above 45 MPH x Ten = Placement of MWS.
- Speed Limit = Cone Spacing.
- For many different situations see 620-135-010 for good references.

E 4. When is a flagperson required and how should they be equipped?

- A flag person should be used when adequate protection cannot be obtained using conventional devices.

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- A flagman is to be equipped with a reflective vest (illuminated at night), hand flags, or paddles.

E 5. How should you provide work area protection for pedestrian traffic?

- Rope
- Tape
- Cones
- Barricades, signs
- Other devices

SAFETY EYEWEAR

References - 081-020-011 Eye Protection
010-100-005 Eye Protection

E 6. When do you wear ANSI approved eye protection?

- Whenever you are performing, observing and/or supervising a work operation where there is a reasonable probability of injury to the eyes that could be prevented by such protection.

  Examples:

  - While using tools
  - While in the close proximity of an individual using tools
  - Any work operations designated by a supervisor as requiring eye protection.

D E 7. How do you inspect safety glasses?

- Lenses and frames, look for the manufacturer's symbol which indicates ANSI approved.
- Lenses not scratched or pitted, clean and bright.

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- Proper fit and storage.

E 8. When do you wear goggles?

Dust and splash-proof goggles shall be worn when:

- Drilling or chipping stone, brick, terra cotta tiles, etc.
- Working around grinding wheels.
- Welding or wiping lead sleeves.
- Using power-activated stud drivers.
- Under motor vehicles when hammering.
- Using compressed air.
- Handling air filters or fluorescent tubes.
- Battery acids, countercell solutions, or taking battery readings.
- When work is performed above eye level and when dirt and debris is likely to be disturbed.
- When using encapsulants.

D E 9. How do you inspect and maintain goggles?

- Lens for cracks and scratches.
- Straps for elasticity and wear.
- Clean and bright by washing with soap and water.
- Store in the appropriate case.

HARDHATS

References - 081-020-010 Safety Headgear

E 10. What type of protection is provided by the hardhat?

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- Protection against head injury.
- Protection from accidental electrical contact.

E 11. When do you wear a hardhat?

- Working aloft (Definition: When both feet are off the ground).
- In the vicinity of construction apparatus.
- At ground level when work is going on overhead.
- Working in trenches over three feet deep.
- In manholes, except when not exposed to the opening.
- At all sites where building construction work is in progress.
- When there is a possible accidental contact with electrically energized objects.
- Any time or area when there is a potential for head injury.

D E 12. What do you inspect a hardhat for?

- Cleanliness.
- Compression test.
- Physical damage or wear, holes or attachments.
- Suspension for proper fit.
- Unauthorized decals. One vinyl acrylic identification tape may be used on the global surface, not on the brim and no closer to the lower edge than the stripping.

HAND TOOLS

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References - 075-160-301 Screw Drivers
081-020-133 Long Nose Pliers
081-330-103 Soldering Coppers
081-745-102 Hammers, Hatches, and Axes
081-745-111 Drills and Drill Holders
081-745-113 Masonry Drive Tools

D E 13. How do you inspect and use screwdrivers?

- Handle for broken, split, roughness.
- Shank for looseness in handle or bent.
- Blade for broken, chipped, bent, rounded edges or corners.
- Select the proper size screwdriver, keeping the shank in line with the screw.
- When using, keep the blade squarely against the bottom of the screw slot, keep the free hand away from the tip of the blade while exerting pressure.

D E 14. How do you inspect and use the automatic drill?

- Shaft for free rotation and excess wear.
- Bits for sharpness and straightness.
- Proper storage.
- When using, keep fingers away from the drill point.
- Place one hand on grip to apply even pressure.

D E 15. How do you inspect and use diagonal pliers?

- Ensure grips are in good condition and secure.
- NOTE: (Grips offer no electrical protection).
- Cutting edge for deep nicks, space between cutters, alignment of jaws.
- Handles for straightness, broken, freedom of movement.

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- Select the proper size of cutting pliers for the job at hand.

- When using diagonal pliers, cut the wire or cable in the direction away from the user.

D E 16. How do you inspect and use long-nose pliers?

- Ensure grips are in good condition and secure.

  NOTE: (Grips offer no electrical protection).

- Jaws for straightness, broken nose ends, alignment and gripping serrations.

- Handles for straightness, broken, freedom of movement.

- Select the proper long-nose pliers for the job at hand.

- When using long-nose pliers, the direction of force should be away from the body, especially the face.

D E 17. How do you inspect and use hammers?

- Handle for cracks, splinters, tape.

- Head for fractured edge, mushrooming and securely fastened.

- Select the appropriate hammer for the task to be performed.

- Wear goggles.

- When using a hammer, grip the handle tightly, strike object squarely, keep other hand away from striking operation.

D E 18. How do you inspect and use axes?

- Handle for cracks, splinters, tape.

- Head for burrs or deep groves in cutting edge, securely fastened to handle.

- Proper storage.

- Wear goggles.

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- When using an axe, secure a firm footing, verify that movement will not be impeded when swung, area is clear of any onlookers, travel of cutting edge is away from body and never between legs.

E 19. How do you inspect and use masonry drills?

Reference 081-745-111

- Drill holder for mushrooming or signs of cracking.
- Drills for sharp cutting edges and straightness.
- Proper storage.
- Select the proper drilling hammer.
- When using, wear gloves and special eye protection. Apply light hammer blows and turn drill slightly between blows.

D E 20. How do you inspect and use a brace and bit?

- Brace for ease of operation of the chuck and ratchet.
- Bits for sharpness and straightness.
- Proper storage.
- When using, seat the bit firmly in the chuck.
- Align the bit and the brace, applying necessary pressure to allow the cutting edges of the bit to complete the boring operation. Never strike the brace with another tool.

D E 21. How do you inspect and use saws?

- Blades for sharpness, missing teeth.
- Proper storage.
- Handle for cracks and security of blade.
- Select the proper saw for the job.

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- When using, maintain firm footing and apply pressure on either forward and/or reverse stroke.
- On initial stroke use work glove on free hand to aid in guiding saw blade. Then move free hand away from saw blade.

D E 22. How do you inspect and use scissors and shears?

- Cutting edges for nicks and burns or excessive sideplay in blades.
- Proper storage.
- Handles for ease of operation, cracks or fractures.
- When using cut at right angles, keeping free hand from cutting edge.

D E 23. How do you inspect and use knives?

- Blades for sharpness, burrs and nicks, mushrooming.
- Proper storage.
- Handle for tightness and wear.
- Select the correct knife for the job.
- When using, wear appropriate gloves (mesh), keep free hand away from direction in which force is applied. Do not use items between knees or legs.

D E 24. How do you inspect and use wrenches?

- For wear and burrs on holding edges, ease of operation of moving parts.
- Gripping end free of burrs and straight.
- Ensure that the set screw is prevented from falling out of the adjustable wrench as this screw retains the adjustable jaw.
- Select the proper size of wrench for the job.

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- When using adjustable wrenches, position tightly on the nut so that the pulling force is applied to the stationary jaw.

- Use a pulling motion on a wrench, not a pushing motion.

POWER TOOLS

References - 010-111-010 Electrical Protection
620-103-010 Portable Tools
GL 77-04-094

E 25. What is the purpose of the third wire?

- To protect the user from shock and possible death by providing a low-resistance path to ground from the case of the tool.

E 26. When do you test a power tool and cord?

- When received.

- Each day before using.

- When maintenance work is performed.

- When damage is suspected.

D E 27. How do you test a power tool and cord?

- Test ground continuity between the case of the tool and the ground prong using a buzzer, OHM meter or the 188A test set and the W1BU cord, (with the on/off switch open and closed). Include the drill chuck for double insulated tools.

- Test the conductors, between each conductor prong and the metal case to insure that no continuity exists. Repeat with the on/off switch open and closed.

D E 28. How do you ground a three-conductor tool in a two-conductor outlet?

- Test the outlet box and receptacle cover for voltage with the 188A test set.

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- Test the outlet box for ground.
- Insert an approved adapter in the two-conductor receptacle and ground to the box using the cover plate screw provided the center screw is metallic and not plastic.
- If the outlet box is not grounded, connect a grounding cord to an approved ground source.
- If the tool cannot be grounded use a double insulated tool.

E 29. What types of extension cords may be used and how should they be inspected?

- Use only company or UL listed extension cords in good condition.
- Inspect insulation for cuts, burns, worn places, tears, frays and bare wires.
- Use of tape is not permitted.

AERIAL PLATFORMS

References - 081-300-015 Aerial Platforms
081-300-111 Pole Platforms

D 30. How do you visually inspect a platform before each use?

- Boards for cracks, excessive wear, poor finish, paraffin, solder drippings and filled cable compounds (jelly and encapsulants).
- Hardware for defective welds, saddles, snaps, hooks.
- Bolts or screws missing or loose.
- Rope for abrasion, broken fibers, cuts, burns, soft and loss of stretch, mildew, mold and change of color at three foot intervals.
- Rope for correct knots and ties in saddle and hooks.

E 31. What precautions do you take before placing and using?

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- Inspect and/or test poles at each end of the span.
- Test strand before placing using the two person method.
- Do not place on 2.2M strand or any size strand on pole to building spans.
- Do not place on slack span construction.
- Platforms placed in excess of three feet from a pole shall be tied to a ladder.
- Ladders used for guy rope tieing shall be secured to the strand by the two-rope method.
- Body belts and safety straps must be worn when placing, removing and working on a platform.
- All items on the platform should be secured.

LIFTING

References - 010-110-007 Safety Precautions For Material Management Operations.

D E 32. How do you lift properly?

- Position yourself with one foot slightly ahead of the other, toes pointing slightly outward, feet apart (width of shoulders) and firmly planted.
- Squat down close to the object, keeping back as straight as possible. Elbows positioned between knees with chin tucked in toward chest.
- Test the weight of the object by lifting or tilting it using the "Palmer Grip".
- Grasp object firmly with "Palmer Grip".
- Keep object close in and lift by straightening the knees.

E 33. What do you do if the weight to be lifted exceeds your capabilities?

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- Divide load into smaller portions.

- Get help or use a mechanical device.

D E 34. How do you set an object down?

- Squat down while keeping back straight.

- Lower object onto the corner or onto support to avoid finger injuries.

- Lower object into final position keeping fingers from underneath.

E 35. What are some of the movements that should be avoided when lifting?

- Twisting; change of direction by moving your feet, not your torso.

- Jerking.

- Side lifting.

- Overextending when reaching.

E 36. How should you carry objects?

- Select clear route of travel.

- Keep object close to body.

- Do not allow load to block your vision.

- Do not twist your body.

- Do not change your grip.

- Face spot where object is to be placed.

- Change direction by moving your feet.

STILTS

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References - 065-106-100 SHUJAX Working Stilts

D E 37. When and how should stilts be visibly inspected?

- Inspect prior to each use.
- Inspect for loose nuts, broken bolts, worn straps, bent parts, and any other physical damage.
- Check the soles of the floor plates for foreign substances and proper traction.

D E 38. What should be examined before wearing stilts?

- Examine the floor in the work area for obstacles and potential trip hazards.
- Floor should be an even, hard surface.

D E 39. How do you put on stilts?

- Sit in a chair or at a desk at the proper height.
- While seated, tighten the leg straps before tying the shoes or tightening the adapter heal and toe straps.
- Keep straps fastened tightly.

E 40. What is the maximum total weight for the user?

- Maximum total weight including side tools and cable is 225 pounds and never to be exceeded.

D E 41. What protective clothing should be worn?

- Hard hat.
- Safety goggles.
- Gloves.

D E 42. What are the precautions to follow when walking?

- Walk on even, hard surfaces only. Always walk forward.

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- Make U turns to reverse direction.
- Never walk backwards.
- Always watch where you are walking.
- Never use stairs.
- Do not lean over to pick up objects, get assistance if necessary.
- Be cautious around low profile fixtures.
- Do not lean over objects such as boxes or desks.

D E 43. How should stilts be removed?

- Wearer should be seated and disconnect leg straps last.

CHAIN SAWS

Reference - 649-530-901
620-310-100
620-310-200

E 44. Who may operate a chain saw?

- Only trained personnel. This training must be documented prior to being allowed to use a chain saw.

E 45. What safety precautions should be observed?

- Safety glasses or goggles, hard hat, work gloves, and hearing protection shall be worn at all times when using a chain saw.
- Electric chain saws will only be used from aerial lift vehicles.
- Gasoline powered chain saws shall be used only when the workman is standing on the ground.
- Do not operate in an enclosure, unless there is adequate ventilation.

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- Clear adjacent area of foreign objects which might hinder the operator or interfere in the operation of the tool.
- Never use where balance and footing are not secure.
- Hold the saw in both hands during operation.
- Do not use for cutting above the chest level of the operator.
- Operator must have firm footing when working on the ground or from an aerial lift device.
- Wear sturdy shoes.
- Do not wear loose-fitting articles of clothing which could get caught in the chain saw.
- Avoid burns from contact with heated parts.
- Stop the engine as soon as cutting is finished.
- Never set the saw down with the engine running.
- Never carry the saw from one work area to another with the engine running.
- When not in use, the chain guard or scabbard should be placed over the chain.
- Keep the chain sharp.

E 46. When do you inspect a chain saw?

- Inspect all chain saws daily.

E 47. What do you inspect on a chain saw?

- -Assure that all handles are tight, guards secure and in place.
- Check all controls, and muffler for proper operation.
- Ensure the operation of the chain brake if equipped.

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- Check the chain for proper tension, sharpness, and free of debris.

E 48. What do you do prior to operating a chain saw?

- Examine the material to be cut and remove any metallic objects, light brush or branches, that may interfere with the operation of the saw.

  Check for:

  - Gasoline chain saws:
    - Maintain at least 10 ft. from fueling location.

      (NOTE: Never add fuel when engine is hot).
    - Proper levels of fuel and oil.
  - Electric chain saws:
    - Proper oil levels.
    - All cords free of defects and proper grounding.
  - Chain saws (all types):
    - Clean filters and oilers free of any debris.

E 49. How do you operate a chain saw?

- Firm footing and weight evenly distributed.
- Both hands on the saw.
- Body positioned directly behind and in line with the motor end of the saw, never beside it.
- Avoid kick backs. (Kick back occurs when the chain, near the nose or the top of the guidebar, contacts any object such as another log or branch or the chain is pinched in a cut.)

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- When a log is supported on both ends and would close on the blade, cut 1/3 through from the top, then finish cutting from the bottom up. With large logs, wedges should be used to avoid pinching the blade.

E 50. How do you store and transport a chain saw?

- Transport and store the saw in a secure area with a scabbard over the chain.
- Gasoline chain saws must have proper ventilation.

WIRE/FIBER ROPE

References - 081-510-101 Manila Rope
081-511-101 "D" Plastic Rope
081-512-100 Handlines
649-310-011 Wire Rope
649-310-100 Rolled Eyes
649-310-111 Cable Reel Slings
649-310-115 Slings

E 51. How do you inspect fiber rope before usage?

- Look for abrasions, cuts, extreme softness, decay or burns.
- At 3 foot intervals twist the rope open looking for broken fibers, fine powder, mildew, mold or change in color.
- No tape permitted.

D E 52. How do you inspect wire ropes and sling before usage?

Inspect for:

- Abrasions
- Corrosion
- Pitting
- Rust
- Kinks

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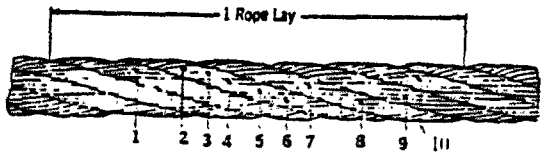
- Crushed spots
- Five broken wires within the strands in any one lay. (649-310-011 include example).



Rope is unsafe for further use if there are five broken wires in one strand (2, 3, 4, 5, 6) or a total of 10 broken wires in all strands in any one rope lay. (1 through 10, inclusive.)

Fig. 6--Inspection of Wire Rope for Broken Wires

- Ten broken wires in all strands in any one lay.

D E 53. What precautions do you follow when using pulling lines?

All types of ropes:

- Wear work gloves.
- Do not overload.
- Determine proper size and kind.
- Avoid twist and kinks.
- Do not straddle, stand next to, or place hands when rope or line is under tension or moving.
- Do not stand inside the angle.
- Avoid sudden jerks.
- Use the appropriate grip or hitch for the job at hand.
- Use walkie-talkie hand or voice signals to control pulling operations.

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Fiber:

- Do not use wet rope in the vicinity of power wires unless it is an emergency and then only if wearing insulating gloves.

Wire:

- Check rigging.
- Do not bend wire rope around sharp corners.
- Never pull winch lines over stationary supports.
- Do not place hands on winch lines being moved by winch drum or within arms reach of any sheave, guide, etc.
- Never use wire rope clamps to form an eye.
- Use a B sheave guard on a mandrel bar.
- Never be in a manhole when wire rope is under tension.
- Wind evenly on winch drum.
- Never splice except when forming an eye.

STEPLADDERS - References - 065-104-301
081-741-105

E 54. When do you visually inspect?

- When received.
- Before beginning any work with the ladder.
- If dropped.

D E 55. How do you visually inspect?

- Place the stepladder in good light.
- Side rails for cracks, splinters, or protruding nails.

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- Steps and rungs for cracks, splits, splinters, decay and loose braces or tie rods on the steps.

- Hardware for bent or broken metal and loose rivets.

D E 56. What is the highest safe step to stand on?

- The second step below the top cap.

D E 57. What are the reaching limitations?

- Do not lean in either direction so that your outside shoulder extends one foot beyond the side rail. A good rule to remember is never move your breastbone beyond the side rail.

D E 58. How should the step ladder be positioned when pulling cable, wire or drop?

- Place the ladder so that when standing on it, it is between you and the source of the cable, wire, or drop.

EXTENSION AND/OR COMBINATION LADDERS

References - 081-740-105 Extension Ladders and Attachments
081-741-100 Ladders, B and C Combination
460-300-108 Ladders
081-510-101 Manila Rope
460.0401 Safety - Personal Protection - Tools
620-131-010 Precautions Before Working on Poles or Pole Mounted Equipment

D 59. How do you remove it from the vehicle?

- Lower the base of the ladder onto the ground.

- Assume a position at the side of the vehicle facing the base, bend the knees slightly and fit side rail snugly against the shoulder.

- Lift the ladder by straightening the knees and readjust until the exact point of balance is obtained;

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- or, after facing the base, lower the other end of the ladder using the proper lifting procedure.

D 60. How do you carry it?

- Carry on the shoulder in a balanced position, ladder hooks turned in, base downward and to the front. Arms not through the rungs.

- Or, carry the ladder at one's side with the spurs forward.

E 61. When do you visually inspect all ladders?

- When received.

- Before beginning any work with the ladder.

- If dropped.

- Wooden ladders receive a dead weight test at six-month intervals or when dropped.

D E 62. How do you visually inspect and what are the ladders limitations?

- Side rails for cracks, splits, splinters, decay protruding nails and loose rivets.

- Rungs for cracks, splits, splinters, decay, looseness or wear.

- Hardware for broken, worn or defective spurs, rubber pads, guide-irons, locks, pulleys and strand hooks.

- Ladder rope for wear, broken fibers, cuts, extreme softness, decay or burns.

- Both ends of the ladder rope must be properly terminated per 081-510-101 Manila Rope.

- "C" and "E" (fiberglass) extension ladders

  - Less than 32' ladders the safe working load is 300 pounds. (Definition - workman, tools and materials.)

- "C" extension ladders

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- Ladders 32' and longer, the maximum safe working load is not to exceed 250 pounds. (Definition - workman, tools and materials.)

E 63. How do you perform field maintenance?

- Remove splinters with a rasp, file, or sandpaper.
- Tighten rivets with two hammers.
- Tighten nuts.
- Replace rope.
- Oil locks, springs and pulleys.
- Rotate spurs or replace rubber feet.

D 64. How do you test strand?

- Inspect and/or test poles at each end of the span.
- No power present-pass a hand line over the strand at the point where the ladder will be placed.
- If power condition exists, place the handline over strand with wire raising tool at the point where the ladder will be placed.
- Grasps both ends of the hand line and gradually apply full weight to the hand line by slowly lifting oneself off the ground.

D 65. How do you extend the ladder?

Reference - 081-740-105SW

- Place the ladder upright with the fixed section close to and facing the wall or strand.
- Face the fly section.
- Place one foot at the outside of the base of the fixed section to steady the ladder, but not in a position where it could be struck by the fly section.

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- Bring the rope around the side rail and use one hand to pull the rope and the other hand to lift a rung of the fly section.

- Extend the fly section one or two rungs at a time and engage the locks after each pull. Never place the free hand between the rungs where it can touch rungs on the fixed section.

- After the top section is raised beyond the reach of the free hand, steady ladder by holding side rail and continuing to extend.

- After ladder is extended, place at proper angle and secure the ladder rope.

- To lower, move the base close to the strand or wall and reverse the raising procedure by lowering one or two rungs at a time.

- Never let the ladder rope slip through your hand.

E 66. How many rungs should extend above the strand; the edge of the roof?

- When hooks are not engaged, place the ladder so that at least two rungs extend above the strand when the workman is in position on the ladder.

- To gain access to a roof, extend the ladder at least three rungs above the point of support.

E 67. What is the proper footing and how is it obtained?

- Ensure both ladder feet are on the same level.

- On uneven surfaces use block, wedge, or ladder foot.

- On wet or oily pavement, a smooth floor, an icy or metal surface-lash, block, secure or have ladder held by another employee.

D 68. How do you place it at the proper angle?

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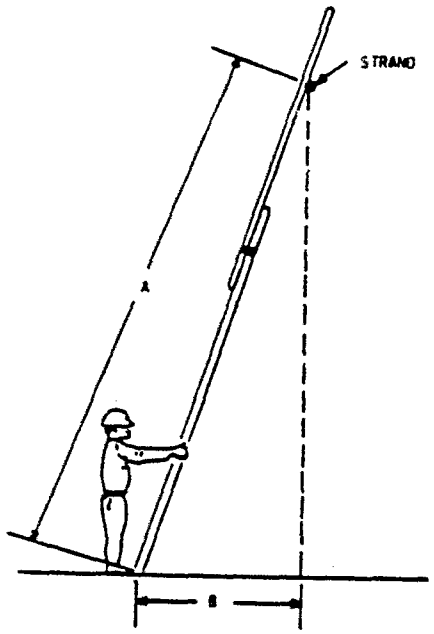

- Place the foot of the ladder on the ground so that the distance from the base of the ladder to a line extended vertically from the top point of contact is approximately 1/4 the length of the ladder measured from the point of contact to the base.

- The fireman's method is a convenient way of checking the angle of the ladder. Place your toes against the base of the ladder, fully extend both arms towards the side rail and parallel to the grouhd. When standing erect you should be able to grasp the side rails.

E 69. What is the highest rung to stand on?

- - Fourth from the top.

D 70. How do you secure yourself to the ladder?

- If the ladder is lashed to the strand, pass the safety strap around one rung, or between two rungs and around one side rail.

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- If the ladder is not lashed to the strand, pass the strap around the strand, one side rail and between two rungs.

D 71. How do you lash the ladder to the strand?

Reference - 081-740-105

- Tie one side rail securely with a clove hitch and two half hitches.
- Pass the rope around the cable and strand at least three turns.
- Tie the other side of the rung with a clove hitch and two half hitches with 3/8" to 1/2" manila rope or equivalent.
- Secure before climbing on a sloping strand or in a strong wind by first placing a hand line over the strand.
- Tie the end of a hand line to the second rung from the top of the top section.
- Extend and position the ladder two full rungs above the strands.
- Pull the other end of the hand line taut and secure it to a nearby pole or to a rung on the lower section of the ladder.

D 72. How do you lash the ladder to the pole?

- Raise the ladder to the desired height and place in the working position at the correct angle against the pole.
- Using a handline, lash extension ladder to base of pole following the 6 steps as illustrated.

Reference (081-740-105; Page 2 of 2)

- Step 1

  Tie rope securely to the pole at the same height of rung to be lashed (fourth or fifth rung from the bottom) with a clove hitch and two half-hitches.

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- Step 2

  Pass rope around the side rail, under rung, and back around the pole.

- Step 3

  Pass the rope under the rung, around other side rail, and back around the pole.

- Step 4

  Pass the rope between loops as shown and back around pole.

- Step 5

  Pull tight, make two turns around pole, and pass rope around loops.

- Step 6

  Make two turns around loops, pull tight and tie off with two half-hitches.

- After the bottom is secured, wearing a body belt and safety strap, ascend the ladder with a 15' length of 3/8" or 1/2" rope. Secure the top of the ladder as listed below.

- Secure the top by using a clove hitch and two half hitches on the side rail rung, pass the rope one complete turn around the pole and secure the oposite end with a clove hitch and two half hitches on the same rung.

NOTE: For alternate methods of lashing ladder before climbing see 081-740-105.

D 73. What are the reaching limitations?

- When the ladder is not lashed, do not attempt to lean to the side so far that the outside shoulder is more than 12" beyond the side rail. A good rule to remember is never move your breast bone beyond the side rail.

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- When the ladder is lashed to the strand, the limitations are as far out as the safety strap will allow with both feet on the ladder rungs.

D 74. How do you place a ladder on the vehicle?

- Ensure the ladder rack locking clamps are in the fully open position.
- Lay ladder against the fixed upright of the ladder rack assembly.
- Raise base of ladder onto the ladder rack and secure with locking clamps.

LADDER SUPPORTS

References - 081-740-105 Extension Ladder Attachments Description and Use

D E 75. How do you inspect "D" and "E" ladder supports?

- Check the sling assembly or support member for excessive wear or fractures.
- Inspect the safety rope.
- Inspect clamp assembly for free and proper operation.
- Safety chains must be attached on the clamp assembly.

D E 76. How do you place and use the "D" and "E" ladder supports?

- Test adjacent poles and strand when required.
- Place ladder against strand and attach ladder support screw assemblies and safety chains.
  - "D" ladder support
    - Attach bowed bar to the second rung from the top of the ladder.
  - "E" ladder support

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- Attach safety rope to the fifth rung from the top of the ladder.

- Pass ladder under cable and strand, then extend ladder between strand and ladder support.

- If "E" ladder support is used, reposition ladder support at the second rung from the top and lash support frame to the rung.

See Figures 20 and 21 of BSP 081-740-105 Page 11.

LADDER PLATFORMS

References - 081-740-105 Extension Ladders and Attachments Description and Use

D E 77. What and how do you inspect ladder platforms before each use?

- Visually inspect the wood for cracks, excessive wear, poor finish, paraffin, solder drippings and filled cable compounds (jelly and encapsulants).

- Bolts or screws missing or loose.

- Ensure that all metal parts have no cracks, rust, any defective welds, and all parts function properly.

D E 78. How do you use "C" and "D" ladder platforms?

- Ascend to working height, position platform support hooks to the rung of the ladder and fasten the spring actuated latches.

- Secure the bottom metal frame and support latches to the next one or two rungs of the ladder.

- Using three point contact, step or climb onto the platform and secure the safety strap to the strand.

TREE TRIMMING

References - 620-310-200, IL 81-05-055

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E 79. Who is a qualified tree trimmer?

- Any worker who by reason of training and experience has demonstrated the ability to safely perform the duties in line clearance work (tree trimming) to the supervisor in charge of the work operation.

E 80. What are the restrictions for unqualified trimmers?

- Unqualified trimmers may not bring tools closer than ten feet to an energized conductor while trimming trees.

E 81. What are the approach distances to energized conductors for qualified personnel?

Minimum Approach Distances

Voltages Phase-To-Phase and Phase-To-Ground	Minimum Distances In Inches
0 to 300 Volts	Avoid Contact
300 Volts To 750 Volts	12"
750 Volts To 37,000 Volts	36"
37,000 Volts To 141,000 Volts	54"

Not to be confused with clearance distances

E 82. What are the Telephone Employee trimming restrictions?

- -Telephone employees will trim to clear telephone wires and cables only.

- Employees will not trim to clear electrical conductors.

E 83. What personal protective equipment is to be used while trimming?

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- Safety headgear and hearing protection.
- Safety glasses under normal conditions, safety goggles when using a chipper.
- Insulating gloves if electrical hazards exists.
- Note - A second qualified employee is required, within a normal voice communications, when trimming where an electrical hazard of 750 volts exists.
- When sawing overhead wear goggles.

ENCAPSULANTS - PLUGGING AND SEALING COMPOUNDS

References - 628-220-204 B Duct Sealer
637-241-011 Pressure Plugs
081-856-101 Disposable Plastic Gloves
081-020-011 Eye Protection

E 84. What are the safety precautions when using chemical compounds?

- Read and adhere to the danger statement on the container.
- Wear goggles and disposable plastic gloves while mixing and pouring.
- Use in well ventilated areas (fans, MH blowers, etc.).
- Avoid contact with your skin.

E 85. What do you do when the work is complete?

- After the work is completed and the tools are cleaned, thoroughly wash the exposed skin areas with the cleaning agent recommended on the compound container.
- Do not use waterless hand cleaner on the face or neck.

LEAD EXPOSURE

References - 010-170-002 Occupational Exposure to Lead
081-852-127 Lead Particle Entrapment Compound (LEPEC)

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620-100-010 Occupational Exposure to Lead, Cable Removal
627-380-240 Aerial Cable Removal
628-240-240 Removing Underground Cable
628-240-242 Removing Underground, High Production Method
632-020-240 Cable Removal, Cutting Splice Closures From Plant
632-315-200 General, Removing Lead Sheath
633-200-201 Lead-Calcium Sleeves, Description and Installation
644-200-005 E Sheath Repair Sleeving, Description and Installation
649-210-132 Cable Removal Unit, Hogg-Davis, Description and Operation
649-210-135 MCV Mobile Cable Salvaging Vehicle, Description and Operation

E 86. How does lead primarily get into the body?

- Inhalation.

- Ingestion.

E 87. Why may high lead levels be injurious to health?

- Lead is a toxic substance. Excessive quantities in the body can cause clinical effects ranging from minor disorders to serious physical damage.

E 88. Which work operations have the greatest potential for excessive lead exposure levels?

- Lead cable removal.

- Reracking underground cables.

- Cable repair using heat shrink sleeving.

E 89. How can you control potential exposures to airborne lead?

- Personal hygiene - keep food, beverages, and tobacco away from work operation.

- Wash hands prior to eating, drinking or smoking.

- Use LEPEC or equivalent (shaving cream).

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- For lead cable removal wear specially provided clothing and adhere to the prescribed exposure time limits. See 620-100-010.

- Use lead particle entrapment compound when filing or carding led cable and sleeves.

POLYCHLORINATED BIPHENYLS (PCBS)

References - 010-160-012, II 79-12-050

E 90. What is PCB and where are they found?

- A liquid material present in some electrical power tranformers, florescent light ballasts and capacitors that have been classified to be hazardous to the human health and environment.

E 91. What are the precautions involving suspected PCB leaks from power transformers?

- Have condition reported to the power company and your supervisor. Avoid contacting leak material. Protect the public with barricades.

E 92. What additional precautions are necessary when working near PCB?

- Observe good personal hygiene, wash hands or exposed skin before eating, drinking, or smoking.

ELECTRICAL HAZARDS

References - 081-710-100 Insulating Blankets
081-710-200 Insulating Gloves
081-705-101 B Voltage Tester
081-705-102 188A Test Set
081-705-103 1188 Test Set
081-705-104 193A Test Set
620-105-010 B Voltage Tester - Use on Poles
621-205-010 Placing and Removing Poles Near Power
C-9970 Voltage Detector, Operation and Use
629-100-010 Buried Plant

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E 93. When do you test insulating gloves?

- When received.
- Before and after use.
- At least once a month.
- Before sending in for yearly test.

D E 94. In what sequence do you test insulating gloves?

- Visually check return date for testing.
- Pull vigorously between the fingers looking carefully for cracks and inner liner showing through.
- Look for signs of abrasions or deterioration on the palm and back of the thumb side and the little finger side.
- Turn the glove inside out and repeat the stretch test.
- Turn the glove right side out.
- Squeeze the fingers of the glove together, let go quickly. Live rubber will return to normal.
- Fill the glove with air by revolving the glove around the edge of the gauntlet axis, rolling it towards the palm and fingers.
- Place the air filled glove next to your face while squeezing to feel for leaks on both sides. (Caution - Employees with beards should use areas around the eyes instead of underneath the chin.)

E 95. What do you do if they fail the test?

- Do not use.
- If outdated, return for re-test.
- If damage is found, cut glove, palm side from finger to top of gauntlet.

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E 96. When do you wear insulating gloves?

- Whenever there is a possibility of contacting electrical power.
- Placing or removing temporary and permanent electrical bonds.
- Driving a ground rod or trailer stake.
- When using a "B" voltage tester.
- When placing or removing strand, wire or drop wire near power.
- When using the 188A test set at sub-stations and primary distribution systems where the potential hazards could exceed 20,000 volts.

E 97. What items require electrical testing?

- Uninsulated vertical grounds, electrical power guys, conduits.
- Street light fixtures (ungrounded).
- Metal sided buildings, mobile homes and trailers.
- Joint use pedestals.
- Foreign plant in our work space including CATV equipment.
- Ceiling grids.
- Buried metallic facilities.
- Utility poles with unattached primaries.

D E 98. When do you inspect and test the "B" voltage tester and (B) temporary bond?

- When received.
- At least once a month.

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- Maintain a record of the monthly tests.

D E 99. When do you inspect and test the 188A test set, B temporary bond and the W1BU cord?

- When first received (188A test set with the 193A test set).
- Self test before and after each use.
- Once a month (188A test set with the 193A test set).
- Test the 188A test set annually with the 1188A test set.

D E 100. How do you inspect and test the "B" voltage tester and temporary bond?

- Inspect the voltage tester and temporary bond for loose connections, loose ferrule, broken probe, defective clip or damaged cord.
- Test and wear insulating gloves.
- Attach the small clamp of the temporary bond to a suitable ground.
- Attach the insulated clip of the voltage tester to the large clamp of the temporary bond.
- Hold the indicator and the red portion of the probe handle in the same hand and in line of sight (gunsight) between yourself and the test plug.
- Touch the ferrule to center of the test plug, the indicator will glow.
- Touch the large clamp of the temporary bond to the small clamp of the temporary bond. The brilliance of the indicator should not change.

D E 101. How do you test any potential with the B voltage tester?

- Wear insulating gloves.
- Connect grounding clip to a suitable ground or metal object laying on the ground 5' from the item to be tested.

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- Using the gunsight method, hold red handle and indicator in same hand.

- Touch potential hazard while observing indicator.

D E 102. How do you inspect and test the 188A test set, B temporary bond and the W1BU cord?

- Annually with the 1188A test set.

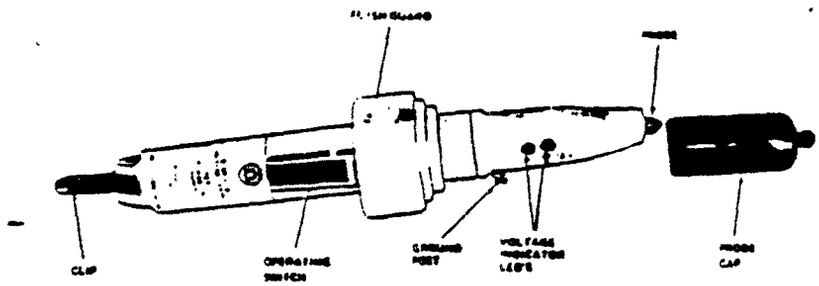
- Inspect the housing for cracks, holes, cuts, decals or unauthorized markings.

- Before and after use, firmly grasp the 188A handle behind the flash guard. Depress the switch, gree LED should light. Place the other hand's index finger on the probe contact and the thumb on the test contact screw. The red LED should light.

- Monthly - depress the switch and touch the probe to the contact point on the 193A test set. The red LED should flash.

- Inspect the cords for loose connections, broken wires and defective clamps.

- Continuity test the temporary bond and the W1BU cord by placing one clamp on the DC ground test post, depress the switch, touch the other clamp to the check contact screw. The red LED should flash.



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D 103. How do you test potential hazards?

- Make pre-use test. (Self-test)
- Depress switch, approach object to be tested while observing for red LED lights, buzzing, or any vibrations. If any of these occur, move away and notify your supervisor. If no red LED flashes, continue test by establishing contact between the tip of the 188A test set and the object to be tested. If 188A test set stays green no further tests are required.
- If red LED flashes only when the object is touched, while maintaining contact between the tip of the 188A test set and the object being tested, release the switch, depress for a second time and move the 188A test set away, if red LED continues to flash move away and notify your supervisor. Proceed to next step ONLY if working aloft.
- If red LED flashes from the previous test, connect one end of the W1BU cord to ground and the other end to the conductive probe cap on the handle of the 188A test set. While maintaining contact between the tip of the 188A test set and the object to be tested, release the switch and depress a second time. If red LED continues to flash move away and notify your supervisor.

E 104. How do you test at sub-stations and primary distribution systems where the potential hazards could exceed 20,000 volts?

- Pre-test the 188A, test and put on insulating gloves.
- Depress the switch and hold down, approach the object to be tested.
- Observe the 188A housing for buzzing, vibrating or red LED. If any of these occur, move away and notify your supervisor.
- If the red LED does not flash do another test without protective gloves.

E 105. What do you do if an electrical hazard is indicated?

- Identify the Hazard to protect the public and other employees.

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- Do not leave an unguarded hazard.
- Notify your supervisor.
- See that the responsible company or owner is notified of the hazard.

D E 106. How do you use a temporary bond?

- The temporary bond is intended to ground a potential hazard which has been tested free of any foreign voltage.
- Test and put on insulating gloves.
- Connect the small clamp of the bond to a known ground source.
- Connect the large clamp of the bond clamp to the fixture last.
- While wearing insulating gloves, remove the large clamp from the fixture first.
- Remove the small clamp from the ground last.

D E 107. What do you do if the bond smokes?

- Leave the bond there.
- Identify the hazard for the public and other employees. Do not leave an unguarded hazard.
- Notify your supervisor.
- See that responsible company or owner is notified of hazard.

D E 108. How do you store insulating gloves?

- A protective glove palm down.
- An insulating glove palm up.
- Both fabric liners.

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- The other insulating glove palm down.
- The last protective glove palm up.
- Grasp all gloves together by the gauntlet and insert in bag, fingers up.
- Store in designated area.

FOOT PROTECTION

Reference - 010-110-007 Safety Precautions For Material Management Operations

E 109. Describe appropriate footwear.

- Company approved foot protection must be worn by all personnel whenever there is a reasonable probability of foot injury due to their work environment.
- Appropriate footwear must be worn during materials handling or working in an area where foot injuries may occur.
- Appropriate footwear is footwear which:
  - Completely encloses the foot with leather or material of equivalent resistance.
  - Has slip resistant soles and a 1 inch heel.

E 110. Why wear appropriate footwear?

- To minimize the number and severity of foot injuries.

E 111. When to wear?

- When working aloft.
- While handling cable reels.
- While working in the vicinity of a cable cutting operation.
- While working on a loading-dock.
- Walking across rough terrain or unpaved areas.

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- Walking and/or working in debris strewn areas.
- Any work operation which could cause foot injury.

BODY BELTS AND SAFETY STRAPS

References - 081-720-101 Body Belts and Safety Straps
081-720-111 Holsters, Handline Carriers GL 77-03-067

E 112. When do you visually inspect?

- When received and each day prior to use.

D E 113. How do you inspect?

- Fabric and leather
  - burn marks.
  - cuts or cracks which would affect the strength.
  - broken or rotted stitching.
  - contrasting colored marker visible.
  - unauthorized attachments.
- Metal parts
  - badly worn or broken belts.
  - loose or broken rivets.
  - cracks in buckle or snaphook.
  - binding of keeper on snaphook.
  - check D ring for 90 degree rotation.

D E 114. How do you secure yourself to a platform or to a cross-connect box before stepping from a pole or ladder?

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- When using the D, E or F belt attach one end of the safety strap to a D ring and the other end to the strand or handle of the BD box.

- With all other body belts pass the free end of the safety strap across the body and thru the other DEE ring and connect the free end of the snaphook onto the strand or handle of the BD box.

SAFETY STRAP MAY BE USED ON ONE DEE RING
SOUTHWESTERN BELL D
SIZE_____ RIGHT_____ MFD_____
MFR NAME OR TRADEMARK

D AND E BODY BELT NAMEPLATE

MUST NOT BE USED IN LINEWORK
SAFETY STRAP MAY BE USED ON ONE DEE RING
SOUTHWESTERN BELL F
SIZE_____ RIGHT_____ MFD_____
MFR NAME OR TRADEMARK

F BODY BELT NAMEPLATE

NOTE: Padded, semi-floating, and full floating body belts are permitted provided they pass all the applicable tests and are treated as all other body belts when working aloft.

D E 115. How do you attach a hand line to a body belt?

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- Use a B-handline carrier as shown in 081-720-111 or slip a loop under the body belt at the rear of the belt so that in the event of a strain it will slip out.

CLIMBERS

References - 081-730-101 Climbers - Description and Use
620-131-010 Precautions Before Working on Poles
Pole Mounted Equipment

E 116. When do you visually inspect?

- When received and each day prior to use.

D E 117. How do you visually inspect

- Gaff guards in place.
- Straps and pads for wear, cut fabric, enlarged holes, broken buckles, loose rivets.
- Sleeve screws for tightness.
- Missing screws or rivets.
- Leg irons for fractures, bends or twists or broken loops, and rings.
- Gaffs for fractures, hairline cracks, distortions, looseness or dullness.
- Gaff ridge for straightness.

E 118. When do you perform the cut-out test?

- When received.
- First time used each week.
- Anytime damage is suspected.
- After honing.

D E 119. How do you perform the cut-out test?

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- Put on one climber, fasten the foot strap but not the leg strap.

- Remove the gaff guard and put on your work gloves.

- Place a gloved hand between the leg and the climber pad, palm facing the pole. Place the other hand around the pole for balance.

- With the leg at the normal climbing angle (about 30 degrees), point the gaff at the center of the pole about one foot above ground line.

- Slightly penetrate the pole surface (penetration should not exceed 1/4 inch). Keep enough pressure to hold the gaff in the pole but do not penetrate further.

- Push climber, knee, and hand toward the pole by moving knee until the strap loop is against the pole.

- Maintaining this position, gradually exert full pressure straight down on the stirrup. Do not jerk or jump. Do not raise the other foot off the ground, but do place all of the weight on the gaff.

- A correctly shaped gaff will cut into the pole and hold within a distance of two inches or less.

- After using the gaff guard to check this measurement, replace the guard.

- Check both climbers in this manner.

E 120. How do you hone a gaff?

- Hold the stone on the inner surface of the gaff and as close to the leg iron as possible.

- Using light machine oil, 20 to 25 strokes toward the tip but not over the tip, keeping the stone flat against the surface.

- Stroke outer side to remove burrs.

E 121. When do you wear climbers?

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- Only when actually climbing and working on an unstepped pole or on a stepped pole if the work cannot be performed safely from the steps.

CLIMBING SKILLS

D E 122. What do you do in preparing to ascend?

- Check for hazards, pole clear of debris, depth of setting, etc.
- Check climbing obstructions, nails, traffic signs, clothes lines, hooks, antennas, missing or bent steps, etc.
- Unbalanced loading or distribution.
- Prod and sound test.
- Wear eye protection, hardhat, gloves, and proper footwear.
- Inspect the pole for physical and electrical hazards.
- Determine the high side of the pole and inspect the climbing area visually. (Climb the high side).
- Put a body belt and safety strap on and adjust the strap to the proper length.
- Place climbers on at the base of the pole, and remove gaff guards.

D 123. How do you ascend the pole?

- Hands at shoulder height, first raise right hand, then right foot and insert gaff at heart of pole 8 to 12 inches from ground.
- Raise left hand and then transfer weight to the right leg and gaff the pole with the left leg.
- Continue the three point technique to the desired height.

D 124. How do you belt in?

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- If you carry the safety strap on the left side, place right foot one step higher than left, center weight on left foot, position right hand around pole.

- Remove top snaphook from carrying DEE ring, position hand with snaphook on back quarter of pole shoulder high, shift body balance to left wrist, transfer snaphook in right DEE ring, visually check that snaphook is engaged.

- Position safety strap to belt height.

- Shift weight to body belt and safety strap.

- Reverse if safety strap is carried on the right side.

D 125. How do you move around the pole?

- Lateral movement from front to back is not permitted on stepped poles unless climbers are used.

- Visually inspect pole.

- Position safety strap at belt-height or higher for maneuver, keep body erect.

- For right maneuver, gaff pole with right foot one-half step higher than left foot and one-half step to the right. Position hands on outside edge of safety strap with fingers and thumbs gripping the inside edge one-half the distance between body belt and pole. Move hips toward pole, push strap with right hand, pull strap with left hand shifting the safety strap in the direction of the lateral step (right). Shift the center body weight over right foot. Reverse procedure for left maneuver.

- Position trailing foot one-half step behind and one-half step below leading foot.

- Shift body weight to trailing foot and continue maneuvering sequence.

D 126. How do you unbelt?

- Visually inspect pole.

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- Check feet and legs for circulation and restore if necessary.

- Position right foot higher than left (if safety strap is carried on left side), center and balance weight over left gaff, position left hand around pole.

- Disengage snaphook from right DEE ring, position hand carrying snaphook at shoulder height and transfer snaphook to left hand, transfer body balance to right hand, engage snaphook in left DEE ring.

- Reverse if safety strap is carried on the right side.

127. How do you descend?

- Reposition hands, balancing hand (weight centered side) shoulder high, descending hand one step below balancing hand.

- Break out leading gaff, lock knee, lower 8 to 12 inches and reengage gaff.

- Position the following hand 8 to 12 inches below the balancing hand.

- Disengage the other foot, lock knee, lower and penetrate the pole approximately 8 to 12 inches below the opposite foot.

- Drop the following hand below the balancing hand.

- Continue the 3 point technique to the ground.

D 128. How do you step off a pole?

- Visually inspect the area around the base of the pole.

- Lower the descending foot no more than 12 inches to the ground.

- Lower remaining foot to ground maintaining body balance with both hands on pole until feet are in a stable and balanced position.

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- Cover gaffs with guards and remove climbers.

NOTE: For established employees not trained in 3 point climbing method, refer to 620-134-010.

WORKING ALOFT ON POLES

References - 620-040-012 Symbols, Poles and Equipment
620-131-010 Precautions Before Working on Poles or on Pole Mounted Equipment
621-205-010 Placing or Removing Poles Near Electric Power Wires
621-220-200 Pole Removal
462-103-010 Preventing Flip Ups
081-710-100 Insulating Blankets
081-710-200 Insulating Gloves

E 129. What hazards do you look for prior to climbing?

- Base of pole clear of debris, depth of setting.
- Electrical conduits, fixtures, exposed ground wires.
- Climbing obstructions, nails, traffic signs.
- Clothes lines, hooks, antennas, missing or bent steps, etc.
- Unbalanced loading or distribution.

E 130. What causes a hazardous unbalanced condition?

- Unbalanced loading or distribution on a pole.
- Removal of guys.
- Untying wires.
- Releasing wires or strand under tension.
- Placing additional wires or strand attachments.
- Loosening suspension clamps or guy clamps.
- Moving line because of road widening.

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E 131. Which poles are to be tested?

- All vacant poles or poles with drop wire only. All other poles must be tested unless all of the following conditions exist:

- The pole is in a straight line section but not a dead end pole.

- The pole is carrying a 6M or larger strand or full arm of open wire which will remain securely clamped throughout the work operation.

- There is no downward grade change at the pole.

- Neither adjacent span is over 165 feet.

D E 132. How do you test poles?

- Pike pole test (not to be used on poles with power attached).

- Place the pike against the pole 12 feet above ground level and at a 45' angle.

- Push the pole at right angles to the strand or from all directions if no strand is attached.

- Hand line test (not to be used on poles with power attached):

- Loop the hand line around the pole about 12 feet above the ground.

- Pull the rope at right angles to the strand or wire or in all directions if strand or wire is not attached.

- Prod and sound test

- Use a prod with a shaft of five inches in length or longer.

- Insert the tool at a 45 degree angle below the ground line. (Most decay occurs between the ground line and 12 inches below ground).

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- Wood decay will be evident by the ease with which the tool penetrates the pole.

- Sound the pole by striking with a hammer on all sides from the ground line to as high as can be reached. The presence of advance decay can be recognized by the hollow or dull sound.

E 133. What do you do if the pole does not pass the test?

- Do not climb.

- Tag with the appropriate B or C pole tag per 620-131-010 and notify your supervisor.

E 134. What do you do if pole steps are bent, missing, or loose?

- Bore new lead holes, plug old holes, and replace steps.

E 135. What are the approach distances to maintain from primary and secondary power? (Not to be confused with attachment or clearance distances.)

- Do not come closer than the minimum approach distances listed in Table A.

Table A
Minimum Approach Distances*

Voltage Phase-To-Phase and Phase-To-Ground	Minimum Distances In Inches
0 to 300 Volts	Avoid Contact
300 Volts To 750 Volts	12"
750 Volts To 37,000 Volts	36"
37,000 Volts To 140,000 Volts	54"

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E 136. What are the precautions to take when placing or removing strand, wire or drop wire near power?

- Test and wear insulating gloves.
- Ground strand wire or drop.
- Tie down wire or strand where flip-ups might occur.
- Pull in with a hand line if applicable.

E 137. What are the precautions to follow after storms?

- Perform a visual patrol of the lead or line and survey surroundings for any hazards.
- Wear hard hat, safety glasses, test and wear insulating gloves.
- Test all potential electrical hazards.
- Coordinate with power company.

D E 138. How does one person place a drop wire across a road?

- If power is present, ground drop wire, strand, or wire, test and wear insulating gloves, and guard against flip-ups.
- Make the building attachment.
- Leave the drop wire reel at the building side of the road and place a hand line over the strand or pole attachment to acquire road clearance.
- When no traffic is approaching, carry or roll drop wire reel to base of pole or ladder making sure the drop wire lies flat on the roadbed.
- Tie one end of the hand line to the drop wire with a bowline knot and tension the reel brake.
- When no traffic is approaching, pull hand line so that the drop reaches the strand or other attachment and tension the drop enough to provide adequate clearance across the road.

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- When raising drop, wire and strand always raise from the ground and never from the pole.

- Secure the hand line to the pole, or ladder.

D E 139. What precautions should be taken when removing a drop wire from a span attachment?

- Always place the ladder against the suspension strand so that your weight, while working from the ladder, will not be supported by the drop wire. If this is not possible, release the drop at the house to relieve the tension.

E 140. How do you raise and lower hand tools and equipment?

- Use a canvas bucket and/or a hand line.

VEHICLES MOUNTED DERRICKS/AERIAL LIFT DEVICES

References - 649-300-021 Corner Mounts
649-351-101 Telsta T-40B
649-351-121 Servi Lift
649-351-141 Servi Lift
010-110-006 Near Power
081-710-100 Insulating Blankets
081-710-200 Insulating Gloves
620-131-010 Precautions Before Working on Poles or Pole Mounted Equipment
621-205-010 Placing or Removing Poles Near Power Wires

E 141. What are the requirements to operate a derrick or an aerial lift device?

- The operator must be thoroughly trained on the particular vehicle being used.

- The operator must be familiar and use the daily check list and have full knowledge of potential hazards.

- The operator should carry an up-to-date card authorizing him/her to operate the equipment. If card is not available, other documentation of training must exist.

D E 142. What precautions do you observe after positioning the vehicle?

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- Set parking brake.
- Operate the Mico-Lock (if equipped).
- Set the wheel chocks.

D 143. Where must you stand when operating the controls of derricks?

- Stand in the position provided.
- Never operate from the ground level.

D 144. What to do before extending the digger derrick boom?

- Set the outriggers taking necessary precautions to endure adequate footing.

D E 145. What precautions should you take prior to extending a boom or aerial lift device?

- Check for power.
- If possible power conflict exists, consider replanning the job to eliminate the conflict.

D E 146. What precautions must you take when working near power?

- Be prepared for any emergency.
- The operator must stand on the platform or at the console.
- Make sure insulating gloves and blankets are within reach for all personnel involved in the work operation in the event of an emergency.
- If there is any doubt that electrical contact exists, assume that the truck is energized.
- The derrick shall not come closer than the minimum approach distance listed.

Table A
Minimum Approach Distances*

Voltage	Minimum

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Phase-To-Phase and Phase-To-Ground	Distances In Inches
0 to 300 Volts	Avoid Contact
300 Volts To 750 Volts	12"
750 Volts To 37,000 Volts	36"
37,000 Volts To 140,000 Volts	54"

*Not to be confused with clearance distances.

E 147. What do you do if the vehicle is suspected of being energized?

- Stay with the vehicle. Do not leave until power contact has been removed or power has been cut-off.
- If an emergency arises and personnel must leave the vehicle, put on rubber gloves, throw rubber blanket on the ground.
- Jump onto the blanket, do not jump in such a way that you may fall back onto the vehicle. When leaving the area, shuffle your feet to avoid a difference in potential.

E 148. How may a pole truck be moved when derrick is not stowed?

- Have insulating blanket and gloves available in the cab of the truck.
- For short distances, e.g., pole to pole, the auger may be carried suspended as long as it is secured to the derrick, the derrick stinger is retracted and rotated off the rear of the truck.
- The auger must not swing, presenting hazards to pedestrians or other vehicles.
- Speed must not exceed a slow walking pace.

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- Ensure that outriggers are retracted before moving.

E 149. What are the restrictions when using boom tip or turret winch in pole removal.

- Never pull poles with the boom tip wrench.
- Always use a pole jack when removing poles.

D 150. What special precautions must be followed when entering a basket?

- Do not exceed the designated basket capacity as stated in the manufacturer.
- Insulating gloves must be in the basket when electrical contact is possible.
- Basket users must wear a suitable body belt and safety strap and be secured to the retaining ring at all times while in the basket.
- Enter or leave the basket only in the manner recommended by the manufacturer or appropriate practice.

D E 151. What are the precautions when moving a vehicle with a person in the basket?

- The vehicle must be equipped with a two-way intercom in good working order.
- The person in the basket is in command of any vehicle movement.
- The vehicle must be moved at a slow walking pace with the driver watching for bumps, soft shoulders or high crowns.
- The vehicle cab and bucket should be equipped with insulating gloves and rubber blanket.
- Must have upper controls in basket and overriding lower controls for use in case of emergency.

VEHICLE TRENCHING/PLOWING/BACK HOEING

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References - 649-400-112, 113, 115 Cable Plows

E 152. What are the requirements to operate a trencher or plow?

- Operator must be thoroughly trained on the particular machine.
- The operator must be familiar with and use a daily check list and have full knowledge of potential hazards.
- The operator should carry an up-to-date card authorizing him/her to operate the equipment. If card is not available, other documentation of training must exist.

D 153. What should be done before the start of trenching or plowing?

- The path trencher or plow is to follow, should be walked to check for obstacles that may damage or tilt the machine.
- Such obstacles should be clearly marked with red flags or other highly visible objects.
- Locate or have all underground utilities located and marked.

E 154. Why is a hand signal necessary?

- This will ensure all are aware of the direction of the vehicle, when to stop, start, or turn the trencher, terrain problems, cable problems, etc.
- A hand signal system must be established with other employees before the start of work operations.

E 155. What is the umbrella area of protection?

- The umbrella area of protections is a ten-foot radius around the equipment where no one must enter.
- If anyone enters this area the operator must stop the vehicle.

D 156. Where to walk while working with trencher?

- Walk well ahead or beside trencher and not behind.

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- Keep out of the umbrella areas so you are visible to the operator.

D E 157. How and where to park the equipment?

- Park well off the traveled portion of the road.
- Reset the blade on a board or rock to prevent lock up.
- Remove the keys.

MANHOLES

References - 081-310-103 Manhole Tent
081-700-100 105, 106, 107, 110, 120, 122 Gas Indicators
620-140-501 Testing and Ventilating Manholes
620-145-010 Petroleum Products in Underground
620-150-010 Placing and Removing Manhole Covers

D 158. What do you do prior to opening a manhole?

- Place work area protection devices.

D E 159. How do you test the operation of a gas indicator?

NOTE: Failure to pass any of the below tests requires replacement of the meter or parts thereof. Do not enter a manhole with a defective meter.

- Test the battery by squeezing the aspirator bulb five times to clear residual gas and zero in the indicator within the limits prescribed by the manufacturer.
- Using a gas test kit allow the gas to enter the meter per instructions.
- The indicator should register readings as prescribed by the manufacturer.
- Test for tightness by squeezing the aspirator bulb with hose attached and a finger over the hose opening. Bulb should remain deflated at least 10 seconds.

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- Test the filter by squeezing the aspirator bulb. After releasing, the bulb should inflate within five seconds.

E 160. When do you test for gas in a manhole?

- Immediately after removing manhole cover.
- After purging and entering a manhole.
- A minimum of every two hours after making initial tests.
- A minimum of one hour if manhole tent is used.
- When opening a duct.
- After removal of water from a manhole.
- After every shift change.
- If gas is detected on initial test, retest every hour without tent, 1/2 hour if tent is being used.

D 161. How do you remove a manhole cover?

- One person can remove the cover by placing the feet solidly clear of the cover bending the knees and keeping the back straight.
- Two persons should first both use their hooks on the same side to break the manhole cover seal. One person then moves to the opposite side of the cover and lifts and assists while the other person pulls.
- Frozen manhole covers should never be thawed with an open flame. Rusty, frozen, or improperly fitting covers can be loosened with a digging bar, hammer or chisel, or by directing a ventilating heater hose at the cover.

162. How do you test manhole atmosphere?

- Lower the free end of the indicator hose to the point where a person's head will be when working in the manhole.
- If sufficient water is present in the manhole to require pumping, hold the sampling hose one foot above the water.

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- Draw a sample of the atmosphere through the gas indicator by compressing and releasing the aspirator bulb five times plus one squeeze for each five feet of the sampling hose.

- Observe the meter pointer continuously from the first squeeze of the bulb until the test is completed.

- If the meter pointer moves rapidly to the top of the scale then returns to a point above zero, a heavy concentration of gas is indicated.

E 163. What do the different indicator readings mean?

- An indicator reading 0.1 to 1.0 or 10% to 100% requires purging and retesting with the blower in operation. If a second test still reads .1 to 1.0 or 10% to 100%, do not enter and notify the supervisor.

- An indicator reading below 0.1 or 10% indicates that the manhole may be entered after purging.

E 164. What do you do if gasoline fumes are smelled?

- Use a gas indicator and a crushed inhibitor filter (if required for your indicator) to determine if the atmosphere is safe to work in.

- Notify your supervisor immediately if required.

E 165. Why must a manhole be purged?

- No manhole should ever be entered unless the manhole is purged for the required time to dissipate any stagnant gas, ensure against oxygen deficiency and provide a complete air change in the manhole.

- The purging time requirements can be found in 620-140-501.

- Establish that the blower hose has been installed properly on the blower, and purge the hose for a period of one minute.

- Only one 90 degree bend in the blower hose is permitted while purging.

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D E 166. Where do you locate the ventilating equipment?

- The blower intake must be away from exhaust fumes.
- The propane source should be in a secured upright position away from the blower intake and if possible lower than the manhole opening.
- Upon first entering the manhole, clear all corners of the manhole for any pockets of gas.
- Only two 90 degree bends are permitted in the blower hose and the end must be secured in a horizontal position directed toward an end wall of the manhole.

D 167. How do you enter a manhole?

- Facing traffic and maintaining three points of contact.
- Use only an appropriate ladder whose first step is not more than one foot below the ground surface.

D 168. What additional tests are required after entry?

- Duct entrances, corners, and generally throughout the manhole.

BURIED PLANT

References - 620-102-010 Underground and Buried Work
622-020-020 Conduit and Manhole Construction
622-100-010 Conduit and Manholes
629-100-010 Buried Plant
081-710-200 Insulating Gloves

D E 169. What do you do along the route before digging?

- Determine the locations of existing buried or underground telephone cables and foreign plant along the route of work.
- Determine the location of power, gas, CATV, water, sewer and pipe lines.

D E 170. What types of hand tools are used when working on buried plant?

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- Digging tools with wooden handles only shall be used.
- No digging bars or all metal tools shall be used.

D E 171. What precautions should be taken while hand digging?

- Do not cut, chop or break underground obstructions until determining what they are.
- Do not disturb, push away, or lift any electrical plant or pipeline.

E 172. What do you do if a gas line is broken?

- Get out of the hole.
- Leave the hole open to allow gas to dissipate.
- Warn residents and the public in the vicinity.
- No smoking or open flames.
- Do not leave the location unguarded.
- See that the fire department is notified.
- See that the gas company is notified.
- Notify supervisor.

E 173. What do you do if a power cable is broken?

- Barricade location until condition has been cleared.
- Keep the public away from the area.
- Do not leave the area unguarded.
- See that the proper utility is notified.
- Notify your supervisor.

D E 174. How do you identify telephone cables in a joint trench?

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- Electrically identify exposed telephone plant with an approved test set and approved test methods.

- If ends of cables are exposed and are readily identifiable as telephone, there is no need to electrically test.

- Do Not Look directly into the sharply severed end of cables that may contain lightwave transmissions.

D E 175. Who connects bonds to power company cable sheath?

- Telephone employees do not connect bonds to power company cable sheath.

- Connections to power company cable sheath shall be made by the customer's electrician or the power company personnel.

D E 176. When must shoring be used in a trench?

- Shoring is required in all trenches five feet deep or more, unless excavation is in solid rock or the sidewalls are tapered back twelve inches for every twelve inches of depth.

- Do not enter trench unless shoring has been provided as prescribed.

- Ladders must be located so as to require no more than 25 feet of lateral travel.

Figure 2 Picture of the Approximate Angle for Sloping Excavation Sides (See Next Page)

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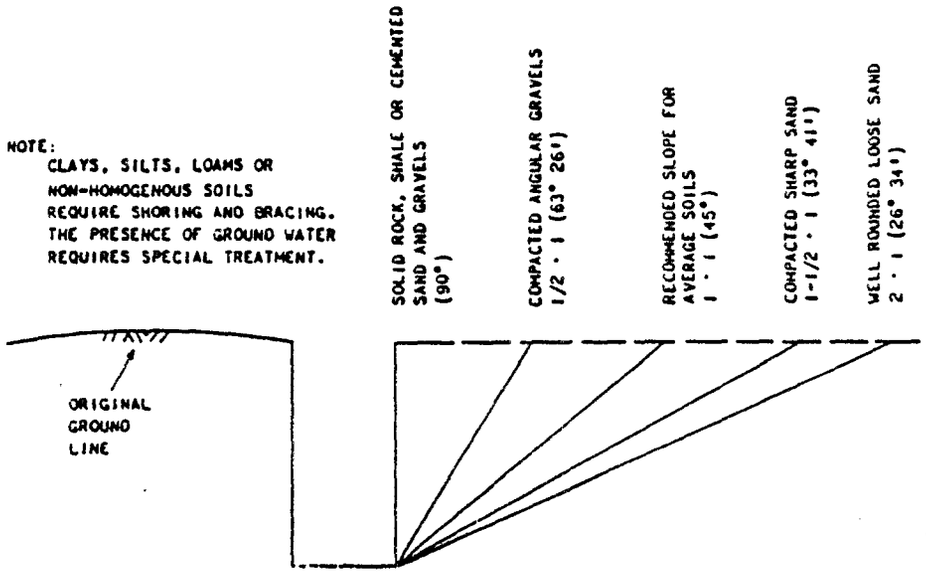
FIGURE 2 PICTURE OF THE APPROXIMATE ANGLE FOR SLOPING EXCAVATION SIDES



D E 177. What precautions should be taken when placing cable terminal posts on joint installations with power?

- The posts should be placed at a minimum of six inches off the trench line before backfilling the trench.

BREAKDOWN TEST SET

References - 634-305-501 L5 Test Set
634-305-502 L6 Test Set

D E 178. What must be done to the cable pair being tested?

- Protective devices must be placed on the C. O. frame.
- Remove all terminated drop wires.

D E 179. Who must be informed that a test is to be made?

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- The maintenance center shall assist in alerting all employees who are working in the isolated section.

D E 180. How do you isolate the breakdown test set from a ground source?

- Place in vehicle.
- Place on insulating blanket or other insulated object.
- Secure to a pole off the ground.

D E 181. How do you connect the defective pair to the test set?

- Always connect breakdown test set to both conductors under test or to one side and to another conductor of a crossed pair.
- Never from side to ground.
- Never use 2 test sets connected in series.

D E 182. What is the test interval on 105D, 110A, and similar test sets?

- The test interval is for one year and should be marked on the handle.

LIGHTWAVE TRANSMISSION SYSTEMS

References - RL 82-11-163
Guidelines for Fiber Optic Projects

E 183. What are fiber optic transmission systems?

- Fiber optic transmission systems use semiconductor laser that emit lightwaves into fiber optic cables.

E 184. Who is permitted to work on fiber optic transmission systems?

- Only authorized trained personnel who have had a prior eye examination shall be permitted to install or perform service and maintenance or to use associated fiber optic test equipment.

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E 185. What precautions should be taken when working with fiber optic cables and test equipment?

- Employees should not disconnect any fiber optic cable and stare into the optical connector because of the potential for eye damage.

- Do not use optical instruments to view unterminated optical connectors.

- Do not examine or stare into broken, severed, or disconnected fiber optic cables.

- Insure fiber optic sources are de-energized during all splicing or maintenance operations.

- The transmission medium used in fiber optic systems consists of fibers that are hair thin filaments of silica glass. When the outer coating is removed down to the bare fibers, the following precautions should be observed.

  1. Safety glasses must be worn when working with bare fibers.

  2. Avoid rubbing eyes when handling fiber cuttings since small fragmented pieces of glass may adhere to the hand and be transmitted to the eyes. If a fiber cutting is suspected to be lodged in an eye, seek medical help immediately.

  3. All fiber must be disposed of properly (per local instructions). Since fiber cuttings are small and very sharp they can pierce the skin easily.

E 186. What is meant by a medical surveillance requirement program?

- Any employee who is assigned fiber optic duties must undergo a comprehensive eye examination upon assuming those duties, when completing those duties, and anytime the employee suspects that eye damage has occurred.

NITROGEN GAS

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References - 637-025-010 Cable Pressure Precautions
637-300-100 Nitrogen Gas Cylinders

E 187. How shall nitrogen gas be stored and transported?

- Stored in a secured upright position with protective caps in place and chained or securely strapped to a fixed wall.
- Temporary field located cylinders, both liquid and dry type must be secured vertically and supported to protect the public.
- Liquid nitrogen cylinders should never be placed in manholes or buildings.
- May be transported in a horizontal position on racks in a vented compartment, or adequately blocked to prevent movement.
- When not in use the regulators shall be removed and protective caps in place.

E 188. What may occur when nitrogen is being used in manholes or to boost air pipe pressure?

- Since nitrogen is heavier than air, it will displace the oxygen in a manhole or splice pit.

E 189. How are nitrogen cylinders identified?

- Each tank has a positive identification on the neck of the tank.
- Aluminum nitrogen cylinders must have a label explaining the heat indicating feature and be painted with a special paint that gives a positive indication if the cylinders have been exposed to temperatures in excess of 350 degrees F.

MAPP GAS

References - RL 82-03-018
Addendum 081-330-105SW

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D 190. How shall Mapp gas be stored and transported?

- In an upright position, with regulator and hose removed and secured from tipping.
- Never in a vehicle cab, open van, or passenger area.
- Never more than three disposable cylinders, or 24 lbs., in vented compartments per vehicle.
- Keep cylinders away from fire and heat.
- Cylinders must not be placed or stored in an aerial lift bucket.

D 191. How shall Mapp gas be ignited?

- Wear goggles and gloves.
- Always secure tank in a ventilated upright position.
- Open tank valve 1/2 turn-approximately 10-15 lbs.
- Soap test all fittings.
- Open the on/off handle valve approximately 1/4 turn.
- Cup the tip in the friction lighter and ignite.
- Fully open the on/off handle valve.
- Adjust for the desired flame by turning the regulator control valve.

D E 192. What are the precautions when using Mapp torch?

- Always be aware of the position of the flame tip.
- Ventilate aerial tents but do not use torch in a draft.
- Do not direct torch against strand, flammable objects, or your body.
- Regulate torch only at regulator.

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- If necessary to thaw cylinder valve, do not use a flame - place the cylinder in a warm room.

- Do not use in manhole, vaults, or splicing pit at mainframes.

- Test for gas before using in a trench or splice pit (see manholes).

D E 193. What do you do when torch work is completed?

- Extinguish flame by closing torch valve, then close the tank valve and open torch handle allowing gas to vent into the atmosphere, away from flames or sparks.

- Close regulator control valve to limit of its travel.

- Never raise, lower or transport a tank with the valve open.

ACETYLENE GAS

References - 081-330-105 Acetylene Torches

D 194. How do you ignite an acetylene torch?

- Wear goggles and gloves.

- Position the tank in an upright secured position.

- Open the tank valve 1/4 turn.

- Soap test all fittings.

- Turn the regulator control valve clockwise to the desired pressure.

- Open the valve on the torch handle and ignite with a friction type lighter only.

- Adjust the valve in the torch handle to obtain the desired flame size.

D 195. What precautions are required when using a torch?

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- Always keep the acetylene tank in an upright position.
- Do not use a torch in a manhole, CEF or splicing pit at main frames.
- When aloft do not allow the flame to contact strand.
- Do not allow torch to contact flammable material such as conductors, muslin, paraffin, etc.
- If used in a tent, the tent must be well ventilated.
- Always extinguish the torch before it is set aside.
- Keep the tank away from fire and heat.

D E 196. What do you do when torch work is completed?

- Extinguish the flame by closing the torch valve, then close the tank valve and reopen the torch valve and allow the gas to vent into the atmosphere, away from flames and sparks.
- Close regulator control valve to limit of its travel.
- Never raise, lower or transport a tank with the tank valve open.
- Cylinders must not be placed or stored in an aerial lift bucket.
- Only two cylinders per vehicle and never in the cab or passenger area.

PROPANE GAS

References - 081-315-101 "C" Manhole Heater
081-315-102 LP Gas
081-330-116 B, C, D, E, LP Gas Cylinders

E 197. What are the dangerous characteristics of propane?

- Propane is highly explosive.
- Propane is heavier than air.

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- If a leak exists in a tank or valve, the gas will seek the lowest level, which could be a manhole.

- Propane is stored under pressure. Tanks should be inspected when received and before each use for cracks, leaks, corrosion, dents, bulges, evidence of rough usage and expiration of inspection dates (no more than 12 years from date stamped on tank).

E 198. How should cylinders be stored and transported?

- Store cylinders at locations that will minimize exposure to physical damage. Keep away from fire and heat.

- Never store cylinders below ground level, e.g., in manholes, basements, cable vaults.

- Secured in an upright position, unless stored in container provided by Vendor.

- Date of initial inspection must be stamped on each cylinder. Twelve years after this date the cylinder must be removed from service and returned for disposition.

- Regulators should be removed and plugs wrench tight.

- They should never be stored or stacked or transported in an enclosure unless the enclosure is ventilated and specifically provided for that purpose.

- Only 80 pounds of propane is permitted on any vehicle (80 pounds per truck or 80 pounds per trailer).

D 199. What precautions do you take when lighting a furnace or heater?

- Inspect the tank for defects (see 197).

- Close the furnace control valve.

- Open the valve on the propane cylinder.

- Soap test all fittings.

- To melt solder or paraffin, set the regulator pressure at 45 PSI.

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- When used with a tent heater, set the regulator pressure at 4 PSI and ensure adequate ventilation inside the tent.

ASBESTOS

References - SW 010-100-904
SR 80-11-100
PL 80-07-216

E 200. What is asbestos?

- Asbestos is a general term for a family of minerals which form naturally as a soft material of compressed fibers.

E 201. Where is asbestos most likely to be found?

- In older buildings.
- In the form of fire protection materials (sprayed on).
- As insulating materials (pipe covering).

E 202. When does asbestos become a health hazard?

- Firmly bound asbestos in a finished form does not present a health hazard.
- When asbestos is disturbed by cutting, sawing or otherwise damaged or deteriorated, released fibers may be inhaled and retained in the lungs and become hazardous.

E 203. What should be done if a work place is suspected to have the potential for asbestos exposure?

- Consult with the owner regarding your suspicions and the risk of asbestos exposure.
- If necessary, asbestos can be wet down with water to minimize the health hazards.
- If suspicion of exposure remains, contact your supervisor.

E 204. What are the requirements for respiratory protection?

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- As a last resort deemed necessary by management if no alternate means are available.
- Must use company approved Powered Air Purifying Respirator (PAPR).
- Must receive training in Asbestos exposure and procedures.
- Receive physician's opinion of employee's medical condition.
- Receive training on the use and care of the equipment.

CONTROLLED ENVIRONMENT VAULT (CEV)

References - 622-506-226
622-506-225

E 205. What is the procedure prior to entering a CEV?

- Place appropriate work area protection (620-135-010).
- After the entrance cover is opened, deactivate the entry alarm.
- Check the status of the atmospheric condition indicator. A green light indicates a safe atmospheric condition exists in the CEV, a red light indicates an explosive or toxic gas concentration.
- Pull up the aluminum ladder and install the guard assembly.

E 206. What is the procedure when the atmospheric condition alarm indicator is red?

- Do not enter the CEV.
- Follow the procedure described in 622-506-226 and inspect the ventilating system.
- When necessary use a portable manhole blower/ventilator as prescribed in 620-140-501.

D 207. Where are additional tests made after entering the vault?

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- Generally throughout the vault and cable ducts.

E 208. When should these tests be made?

- Every two hours.

E 209. What should you do if gas is detected in the vault?

- If gas is detected, follow procedure in 620-140-501 (Ventilating Manholes).
- If gas is still detected, notify your supervisor.

ROLLING LADDERS

References - 010-110-004

D 210. What observations are necessary before using a rolling ladder?

- Inspect to make sure it is not defective.
- Make certain no person, loose tool, material, or equipment is is on the ladder.

D 211. How do you inspect a rolling ladder?

- Visually inspect side rails, handrail and steps for cracks, splinters or defects.
- Check for tightness, including the hardware.
- Check brake locks where equipped by checking for brake lock operation while standing on the 3rd step.

D 212. How do you safely ascend/descend?

- Face the ladder, looking up, grasp handrail before stepping onto first step.
- Place feet carefully on steps, taking one step at a time going up and down.
- On ascending, guard against striking head on ladder track or other overhead metal framework.

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- Descending: Face ladder and continue to grasp handrail until both feet are back on floor.

- Do not stand with one foot on the ladder and the other foot resting on the equipment, frame, or other structures.

D 213. Should the ladder be moved while an employee is on it?

- No, employee must descend ladder before moving.

D 214. How do you place and remove a ladder seat?

- Carry the ladder seat in one hand, place the other hand on the hand rail to ascend or descend.

- Tilt the seat in the required manner to engage or disengage on the desired step. On metal seats ensure that the latch has been properly engaged.

D 215. How to get on and off the seat?

- Before sitting on ladder seat, test by hand to see that seat is firmly secured.

- When getting on or off the ladder seat, the weight shall be kept well balanced to prevent tilting of the ladder.

- Refer to 010-110-004 for the two methods of mounting or dismounting the seat.

E 216. Is it permissible to stand on a ladder seat?

- Never stand on the ladder seat.

E 217. When should the wheels be chocked?

- When using the ladder seat unless the ladder is equipped with brakes.

- While performing heavy work.

- While working in one location for an extended period.

E 218. Under which wheel should the chock be placed?

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- Under the wheel on the side the worker will be facing when working or sitting on the seat.

E 219. Under what conditions may items be placed on the steps?

- Only after items are securely fastened and the ladder is chocked (if required).
- Hand tools should not be left on the ladder steps.

BATTERY, POWER AND ENGINE ROOM

References - 157-601-701

E 220. What personal protective measures are to be taken in the power room?

- Remove all jewelry.
- Secure long hair and loose clothing.
- Wear eye protection.

E 221. What are the neutralizing agents and why are they used?

- Substances used to counteract the effect of acids or alkaline solution.
- Baking soda solution is used to neutralize sulfuric (battery) acid.
- Boric acid solution for alkaline and nickel cadium battery electrolytes.

NOTE: These neutralizers are never to be used in the eyes.

D 222. What protective equipment should be worn when working with battery solutions?

- Splash proof goggles.
- ACID PROTECTIVE RUBBER GLOVES AND APRON.

D 223. What action is necessary if battery acid gets in the eye?

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- Use eyewash provided at various eyewash stations in the power room or flush the eye with water for at least 15 minutes.

- Cover both eyes with a clean dressing.

- Get medical attention immediately.

D 224. What special protective equipment should be worn when working in the engine room with the engine running?

- Ear and eye protection.

E 225. What special feature is required on tools used on battery and power terminals?

- Always us an insulated tool which will not draw ARCS or sparks.

E 226. What must be used to protect battery and power circuits when working above them with hand or other tools?

- Cover them with fiberboard, canvas or insulating blanket. Refer to the practice.

HEARING CONSERVATION

E 227. Who is required to wear hearing protection?

- Any employee exposed to 85dBA of noise for an 8 hour time weighted average.

E 228. What is the OSHA requirement for employees exposed above 85dBA on a time weighted average?

- They must be included in a Hearing Conservation Program according to the OSHA standard.

E 229. What are the two major types of hearing protectors?

- Ear plugs (disposable and reusable).

- Ear muffs.

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D E 230. Demonstrate and explain the proper way to insert disposable ear plugs?

a. With clean hands, roll plug into tight cylinder.

b. Reach over head and pull ear upward and outward to straighten ear canal.

c. Insert rolled cylinder into ear canal.

d. Hold plug in place 15-30 seconds to allow plug to expand and fill ear canal.

D E 231. Demonstrate and explain the proper way to insert reusable ear plugs?

a. Ensure hands and ear plugs are clean.

b. Reach over head and pull ear upward and outward to straighten ear canal.

c. Gently push and twist plug into ear canal until a seal is made.

E 232. What are some sources of noise off the job that could effect hearing and when hearing protection should be worn?

- When using firearms, chain saws, loud music, some farm machinery and power tools.

233. When are audiograms required for employees on the Hearing Conservation Program?

- An initial baseline audiogram and then annually.

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Retain Until Superseded
Joint Practice No. 28

Review-Package 6
SAFETY KNOWLEDGE
REVIEW/WORK OBSERVATION CARD

SW6726
Page 1 of 2
(1-88)

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Work Observations

Date	Subj. No.	Initials	Mgt. Level	Date	Subj. No.	Initials	Mgt. Level

Work Observations

Date	Subj. No.	Initials	Mgt. Level	Date	Subj. No.	Initials	Mgt. Level

Employee Name

Job Title

Year

Supervisor

Date	Subj. No.	Deviation & Corrective Action

SW6726
Page 2 of 2
(1 88)

| OK | Subject | | |

Southwestern Bell Telephone Company
Joint Practice No. 28
Southwestern Bell Telephone Accident Prevention Plan

Review Package No. 12
January, 1988

ACCIDENT PREVENTION PLAN

NETWORK CENTRAL OFFICE OPERATIONS



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310.0803 - Joint Practice

TO ALL HOLDERS OF
JOINT PRACTICE 28

TYPE OF ACTIVITY

Replace

FILING INSTRUCTIONS

Complete Review Package
12 (1988) new issue

Staff Manager-Safety

Attachments

-

SWBT 001489

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Southwestern Bell Telephone Company
Joint Practice No. 28
Accident Prevention Plan

January, 1988

Southwestern Bell Telephone Company Accident Prevention Plan nas 24 unique review packages. Seven of these packages required updates on safety information due to changes and expansion of OSHA safety regulations and four needed general updating because of environmental changes since 1984. The appropriate changes have been coordinated with each state's area manager-safety. Packages 2, 3, 4, and 17 were modernized for clerical, operator and first aid procedures. Packages 6, 7, 9, 11, 12, 14, and 15 were updated for additional personal safety and recognition of hazardous substances. Package 22 was updated and includes new price list.

Vice President, General Counsel
and Secretary

Executive Vice President-
Finance and External Affairs

Executive Vice President-
Marketing and Operations

President and Chief Executive Officer

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DESCRIPTION OF REVIEW PACKAGE NUMBER 12

1. REFERENCE BOOK 12

1.1 Key Point Reference Book 12 contains the key points for each question and/or demonstration item listed on the Safety Knowledge Review/Work Observation Card 12.

1.2 More detailed information is available by consulting the appropriate Company Practice listed before each subject covered.

1.3 A blue pocket folder is provided with each Key Point Reference Book for use by the supervisor. The folder is intended to carry the Key Point Reference Book and sufficient Safety Knowledge Review/Work Observation Cards for each employee in the supervisor's work group.

2. SAFETY KNOWLEDGE REVIEW/OBSERVATION Card 12 (SW 6739).

2.1 Each Safety Knowledge Review/Work Observation Card 12 is a one year record of one employee's safety knowledge review results and work observations.

(a) Space is provided to schedule and document completion of safety knowledge reviews, follow-up checks and inspections as well as notations of completed work observations.

2.2 The front of Card 12 (Fig. 1) provides space for the employee's name and job title, the year of coverage, the supervisor's name, and review subject schedule for the year.

(a) Documentation of work observations are made in the space provided as noted:

2.201 If the work observation was completely satisfactory, enter the month and day (e.g., 7/14) that the observation was performed. (See Fig. 1)

2.202 For each deviation noted, the date, subject and a brief explanation of the deviation and the corrective action taken should be noted in the identify Deviations space.

2.203 All deviations require immediate, on-the-spot training.

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2.204 The required work observation should be recorded for each employee per the district plan. (All deviations must be recorded.)

2.2041 Space is available in the top left corner for upper management to document work observations.

2.3 The back of Card 12 (Fig. 2) provides space for documentation of safety knowledge reviews and follow-up reviews, if applicable.

3. SCHEDULING TECHNIQUES

3.1 At least once a year, each employee shall be covered with each safety knowledge review or appropriate work observation that pertains to the task(s) or work procedure(s) which the employee may be called upon to perform.

3.2 One method of scheduling safety knowledge reviews is listed below:

(a) Beginning with the number 1, assign a consecutive number to each employee in the first level work group.

(b) Using Fig. 3, schedule the safety knowledge review subjects by month as indicated in the schedule/complete column.

(c) The actual schedule for employee No. 1 is shown in Fig. 2.

(d) Schedule the remaining employees in the work group by using this procedure.

NOTE: Supervisors should schedule safety subjects for safety knowledge reviews that specifically pertain to their reporting people.

Safety subjects not applicable to normal work assignments should be marked (NA).

4. SAFETY KNOWLEDGE REVIEWS

4.1 Documentation of safety knowledge reviews is made in the spaces provided on the back of the card. Entries should be made in pencil so changes may be made as required.

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(a) OK Column: Place a mark in this space when the employee's demonstration and/or explanation of the specific item is fully correct and no errors are made.

If the employee demonstrates safety knowledge by the manner in which a task is performed, the supervisor should consider the demonstration as proof that the employee does have the knowledge to perform the task safely.

(b) DEV Column: Place a mark in this space when the employee does not demonstrate and/or explain the specific item correctly.

4.101 Retrain the employee before concluding the subject being reviewed.

4.102 If, in the judgement of the supervisor, a deviation is minor and can be corrected on-the-spot, place a check mark in the DEV column and a check mark in the FOLLOW-UP OK column after the deviation has been discussed and corrected.

4.103 If, in the judgement of the supervisor, an employee displays an overall low level of safety knowledge and/or ability to demonstrate the safe methods during any Safety Knowledge Review, another Safety Knowledge Review shall be conducted during the following three months to ensure that the on-the-spot training given during the initial Safety Knowledge Review was effective and was retained by the employee.

Schedule a follow-up review in the Follow-Up Sch/Comp. column by recording the month and day.

5. FOLLOW-UP

5.1 A follow-up is a reexamination of a deviated item(s) noted during the initial safety knowledge review.

(a) If an employee correctly demonstrates and/or explains the previously deviated safety item, place a mark in the Follow-Up OK column.

(b) Follow-Up Sch/Comp/ Column: mark the follow-up completion by month and day.

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FIGURE 1 (Example)

SW 6739
1-88

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SAFETY KNOWLEDGE REVIEW/OBSERVATION CARD
Inside Craft
Review Package 12

Employee Name: S. WHITE
Job Title: COMM. TECH.
Year: 1988
Supervisor: D. HAWKINS

Ref. J.P. 28: 3/4 HAND TOOLS - PJB

Retain six years until

Date	Subj No	Deviation & Corrective Action
3/24	4	NOT WEARING SAFETY GLASSES. REVIEWED REQUIREMENT.

Work Observations	Record Month and Day (4/12)										Subject	Sch	Comp
	OK	OK	OK	OK	OK	OK	OK	Dev	Dev	Dev			
1 Rolling Ladders	1/6	3/24									1 Rolling Ladders	1/6	1/6
2 Step Ladders	3/4										2 Step Ladders	1/6	1/6
3 Battery Power. Engine											3 Batteries-Power Engines	2/4	2/4
4 Safety Eyewear											4 Safety Eyewear	2/4	2/4
5 Hand Hats											5 Hand Hats	3/8	3/8
6 Insulating Gloves											6 Insulating Gloves	3/8	3/8
7 Hand Tools	3/4										7 Hand Tools	4/12	4/12
8 Electric Tools											8 Electric Tools	4/12	4/12
9 Hazardous Material											9 Hazardous Materials	5/6	5/6
10 Lightwave											10 Lightwave	5/6	5/6
11 Lifting											11 Lifting	6/7	6/7
12 Miscellaneous											12 Miscellaneous	6/7	7/1
13 Controlled Environment Vault											13 Controlled Environment Vault	7/1	7/1
14 CEF											14 CEF	7/1	7/1
15 Microwave Radiation											15 Microwave Radiation	8/4	
16 First Aid											16 First Aid	5/9	
17 Tool Inspection											17 Tool Inspection	3/29	
18 Tool Inspection											18 Tool Inspection	7/3	
19 M V Inspection											19 M V Inspection	3/28	
20 M V Inspection											20 M V Inspection	7/3	
21 Def Driving Review											21 Def Driving Review	3/25	
22 Def Driving Pre/Det											22 Def Driving Pre/Det	3/25	
23 Def Driving Random											23 Def Driving Random	7/11	
											24		
											25		
											26		

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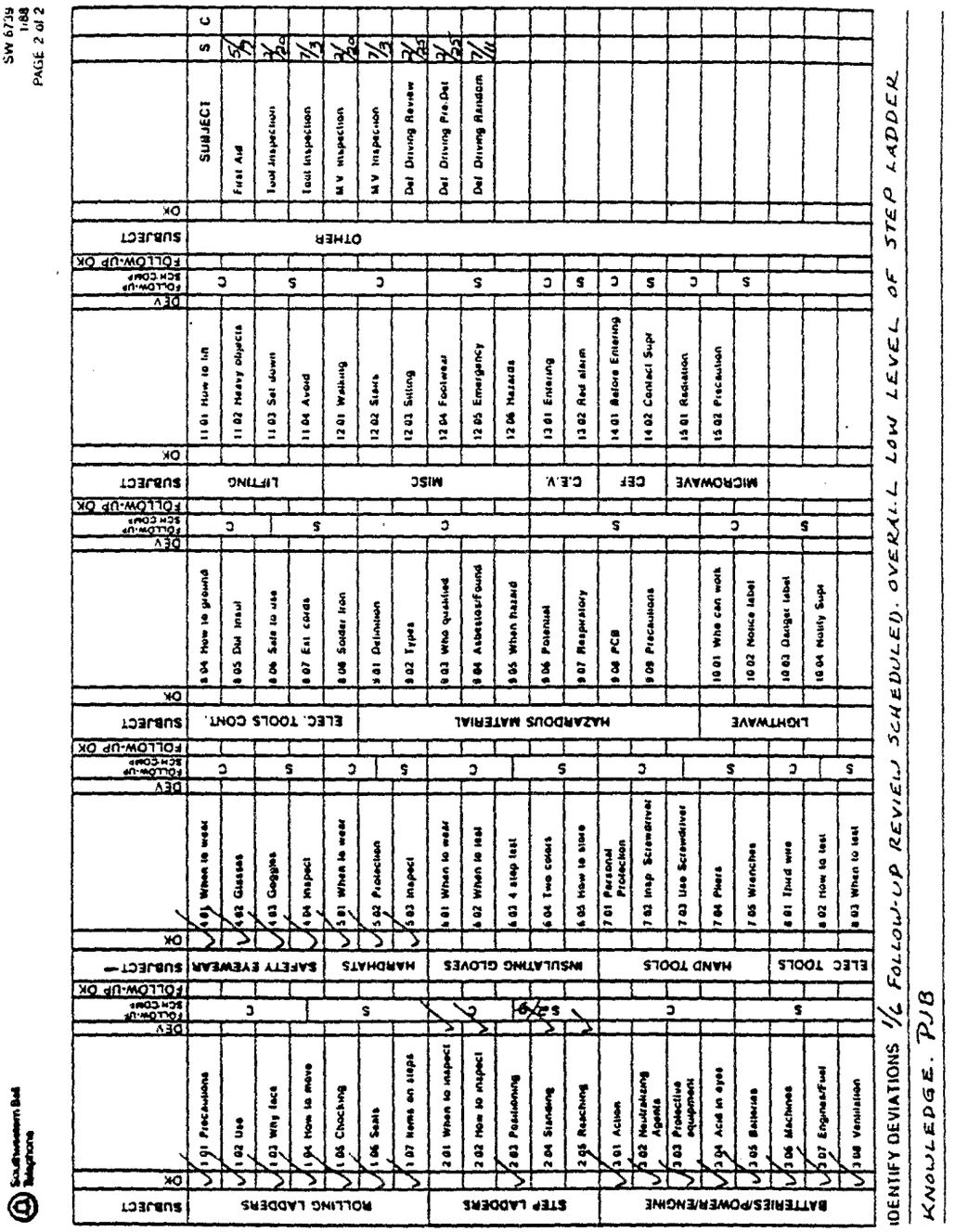
FIGURE 2 (Example)



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SAMPLE REVIEW SCHEDULE
FIGURE 3

	EMPLOYEE 1 & 7	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	July
	EMPLOYEE 2 & 8	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Jan.	Aug.
	EMPLOYEE 3 & 9	Mar.	Apr.	May	June	July	Aug.	Sept.	Jan.	Feb.	Sept.
	EMPLOYEE 4 & 10	Apr.	May	June	July	Aug.	Sept.	Jan.	Feb.	Mar.	Oct.
	EMPLOYEE 5 & 11	May	June	July	Aug.	Sept.	Jan.	Feb.	Mar.	Apr.	Nov.
	EMPLOYEE 6 & 12	June	July	Aug.	Sept.	Jan.	Feb.	Mar.	Apr.	May	Dec.
Subject Number	Subject										
1	ROLLING LADDERS	X									
2	STEP LADDERS	X									
3	BATTERY, POWER, ENGINE		X								
4	SAFETY EYEWEAR		X								
5	HARDHATS			X							
6	INSULATING GLOVES			X							
7	HAND TOOLS				* X						
8	ELECTRIC TOOLS				X						
9	HAZARDOUS MATERIAL					X					
10	LIGHTWAVE					X					
11	LIFTING						X				
12	MISCELLANEOUS						X				
13	CEV							X			
14	CEF							X			
15	MICROWAVE RADIATION								X		
	-										
	FIRST AID *										
	TOOL INSPECTION		X								X
	MOTOR VEHICLE INSPEC.		X								X
	DEF. DRIVING REVIEW		X								
	DEF. DRIVING PRE/DET.		X								
	RANDOM ROAD TEST										X
	OTHER										

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* SCHEDULE PACKAGE 17 FOR ALL EMPLOYEES IN THE SAME MONTH (GROUP SESSION)