

# Related Academic and Workplace Skills

Task	Skill Group	Sub Skill	Description
<b>SECTION A: INTRODUCTION</b>			
<b>Unit 1–A: Introduction to Brakes</b>			
Diagnose and determine possible causes of general brake problems (A.S. 1)	Basic skills	Reading	Locates pertinent information in service manuals and troubleshooting guides; applies information to job performance
	Thinking skills	Problem solving	Identifies possible reasons for problem
	Information	Acquisition and evaluation	Acquires information from manuals and guides
Identify features for assigned vehicle (A.S. 2)	Basic skills	Reading	Locates pertinent information in manuals and logs
	Thinking skills	Reasoning	Uses logic to draw conclusions from available information
	Information	Acquisition and evaluation	Acquires information from manuals and inspection
Move vehicle and prepare for service (J.S. 1)	Basic skills	Reading	Comprehends written information and applies it to a task; uses operator's manual to obtain procedure information
		Writing	Completes job ticket neatly with all appropriate information
	Thinking skills	Reasoning	Applies rules and principles to a new situation
	Personal management skills	Responsibility	Follows shop safety rules
Check brake fluid level and condition and inspect for leaks (J.S. 2)	Basic skills	Reading	Follows written directions; comprehends written information and applies it to a task; uses service manual to obtain procedure information
		Writing	Completes job ticket neatly with all appropriate information
	Thinking skills	Problem solving	Identifies problems; draws conclusions from observations; determines repairs and/or replacements needed
	Personal management skills	Responsibility	Follows shop safety rules
	Resources	Materials and facilities	Uses materials correctly; keeps work area clean
	Technology	Maintenance and troubleshooting	Inspects, repairs, and replaces components/fluid as required

## Related Academic and Workplace Skills

Task	Skill Group	Sub Skill	Description
<b>Unit 2–A: Wheel Bearings and Seals</b>			
Evaluate worn and damaged wheel bearings and seals (A.S. 1)	Basic skills	Reading	Comprehends written information and applies it to a task
		Writing	Presents answers in a clear and understandable form; describes condition accurately; uses technical words
	Thinking skills	Decision making	Evaluates type and amount of wear to determine reusability or replacement
	Technology	Maintenance and troubleshooting	Inspects and evaluates component's condition
Select appropriate replacement wheel bearings and seals (A.S. 2)	Basic skills	Reading	Locates pertinent information in service manuals and guides
	Thinking skills	Reasoning	Uses logic to draw conclusions from available information
Remove, inspect, clean, replace, and adjust wheel bearings and seals (J.S. 1)	Basic skills	Reading	Follows written directions; comprehends written information and applies it to a task; uses service manual to obtain procedure information
		Writing	Completes job ticket neatly with all appropriate information
	Thinking skills	Reasoning	Applies rules and principles to a new situation
	Personal management skills	Responsibility	Follows shop safety rules
	Resources	Materials and facilities	Uses materials correctly; keeps work area clean
	Technology	Application	Demonstrates the proper procedure for setting up and operating equipment
Maintenance and troubleshooting		Cleans, inspects, replaces, and adjusts components as required	

## Related Academic and Workplace Skills

Task	Skill Group	Sub Skill	Description
<b>Unit 3–A: Antilock Brake Systems</b>			
Diagnose and determine possible causes of ABS problems (A.S. 1)	Basic skills	Reading	Locates pertinent information in service manuals and troubleshooting guides; applies information to job performance
	Thinking skills	Problem solving	Identifies possible reasons for problem
	Information	Acquisition and evaluation	Acquires information from manuals and guides
Inspect, test, and service an antilock brake system (J.S. 1)	Basic skills	Reading	Follows written directions; comprehends written information and applies it to a task; uses service manual to obtain procedure information
		Writing	Completes job ticket neatly with all appropriate information
	Thinking skills	Reasoning	Applies rules and principles to a new situation
	Personal management skills	Responsibility	Follows shop safety rules
	Resources	Materials and facilities	Uses equipment and materials correctly; keeps work area clean
	Technology	Application	Demonstrates the proper procedure for setting up and operating equipment
Troubleshoot antilock brake system problems (J.S. 2)		Maintenance and troubleshooting	Cleans, inspects, and services components as required
	Basic skills	Reading	Follows written directions; comprehends written information and applies it to a task; uses service manual to obtain procedure information
		Writing	Completes job ticket neatly with all appropriate information
		Listening	Listens for content; receives and interprets oral messages
		Speaking	Asks questions to obtain and clarify information; speaks in a clear, concise manner; pronounces words correctly
	Thinking skills	Problem solving	Identifies problems; draws conclusions from observations; determines repairs and/or replacements needed
	Personal management skills	Responsibility	Follows shop safety rules
	Resources	Materials and facilities	Uses tools and materials correctly; keeps work area clean
	Technology	Application	Demonstrates the proper procedure for setting up and operating test equipment
	Maintenance and troubleshooting	Inspects, repairs, replaces, and adjusts faulty parts and/or connections	

# Related Academic and Workplace Skills

Task	Skill Group	Sub Skill	Description
<b>SECTION B: HYDRAULIC BRAKES</b>			
<b>Unit 1–B: Hydraulic Foundation Drum Brakes</b>			
Remove, clean, inspect, and measure a brake drum (J.S. 1)	Basic skills	Reading	Follows written directions; comprehends written information and applies it to a task; uses service manual to obtain procedure information
		Writing	Completes job ticket neatly with all appropriate information
		Math	Uses measuring device
	Thinking skills	Problem solving	Draws conclusions from observations; determines repairs and/or replacements needed
	Personal management skills	Responsibility	Follows shop safety rules
	Resources	Materials and facilities	Uses materials correctly; keeps work area clean
	Technology	Maintenance and troubleshooting	Cleans and inspects component
Remove, inspect, and replace brake shoes and related hardware (J.S. 2)	Basic skills	Reading	Follows written directions; comprehends written information and applies it to a task; uses service manual to obtain procedure information
		Writing	Completes job ticket neatly with all appropriate information
	Thinking skills	Problem solving	Identifies problems; draws conclusions from observations
	Personal management skills	Responsibility	Follows shop safety rules
	Resources	Materials and facilities	Uses materials correctly; keeps work area clean
	Technology	Maintenance and troubleshooting	Inspects and evaluates component's condition
Replace brake drum and adjust brake clearance (J.S. 3)	Basic skills	Reading	Follows written directions; comprehends written information and applies it to a task; uses service manual to obtain procedure information
		Writing	Completes job ticket neatly with all appropriate information
		Math	Uses measuring device
	Thinking skills	Reasoning	Applies rules and principles to a new situation
	Personal management skills	Responsibility	Follows shop safety rules

## Related Academic and Workplace Skills

Task	Skill Group	Sub Skill	Description
<b>Unit 1–B: Hydraulic Foundation Drum Brakes (cont.)</b>			
	Resources	Materials and facilities	Uses materials correctly; keeps work area clean
	Technology	Application	Demonstrates the proper procedure for setting up and operating equipment
		Maintenance and troubleshooting	Cleans, replaces, and adjusts component as required
<b>Unit 2–B: Hydraulic Foundation Disc Brakes</b>			
Remove, clean, and inspect a caliper and pad assembly (J.S. 1)	Basic skills	Reading	Follows written directions; comprehends written information and applies it to a task; uses service manual to obtain procedure information
		Writing	Completes job ticket neatly with all information
	Thinking skills	Problem solving	Identifies problems; draws conclusions from observations
	Personal management skills	Responsibility	Follows shop safety rules
	Resources	Materials and facilities	Uses materials correctly; keeps work area clean
	Technology	Application	Demonstrates the proper procedure for setting up and operating equipment
Inspect, measure, remove, and reinstall a rotor assembly (J.S. 2)		Maintenance and troubleshooting	Inspects and evaluates component's condition
	Basic skills	Reading	Follows written directions; comprehends written information and applies it to a task; uses service manual to obtain procedure information
		Writing	Completes job ticket neatly with all information
		Math	Uses measuring device
	Thinking skills	Problem solving	Evaluates conditions; determines needed repairs and adjustments
	Personal management skills	Responsibility	Follows shop safety rules
	Resources	Materials and facilities	Uses materials correctly; keeps work area clean
	Technology	Application	Demonstrates the proper procedure for setting up and operating equipment
		Maintenance and troubleshooting	Inspects, cleans, and reinstalls components as required

## Related Academic and Workplace Skills

Task	Skill Group	Sub Skill	Description
<b>Unit 2–B: Hydraulic Foundation Disc Brakes (cont.)</b>			
Reinstall caliper and pad assembly and check brake operation (J.S. 3)	Basic skills	Reading	Follows written directions; comprehends written information and applies it to a task; uses service manual to obtain procedure information
		Writing	Completes job ticket neatly with all information
	Thinking skills	Problem solving	Applies rules and principles to a new situation
	Personal management skills	Responsibility	Follows shop safety rules
	Resources	Materials and facilities	Uses materials correctly; keeps work area clean
	Technology	Application	Demonstrates the proper procedure for setting up and operating equipment
		Maintenance and troubleshooting	Inspects and evaluates component's condition
<b>Unit 3–B: Hydraulic Systems</b>			
Interpret hydraulic system diagrams (A.S. 1)	Basic skills	Reading	Follows written directions; comprehends written information and applies it to a task; uses service manual to obtain procedure information
	Thinking skills	Reasoning	Applies rules and principles to a new situation
Interpret brake light system circuit diagrams (A.S. 2)	Basic skills	Reading	Follows written directions; interprets drawings to obtain factual information
	Thinking skills	Reasoning	Applies rules and principles to a new situation
Test hydraulic system and inspect for leaks; determine needed repairs (J.S. 1)	Basic skills	Reading	Follows written directions; comprehends written information and applies it to a task; uses service manual to obtain procedure information
		Writing	Completes job ticket neatly with all information
	Thinking skills	Problem solving	Identifies problems; draws conclusions from observations; determines needed repairs
	Personal management skills	Responsibility	Follows shop safety rules
	Resources	Materials and facilities	Uses materials correctly; keeps work area clean
	Technology	Maintenance and troubleshooting	Tests and inspects system for leaks

## Related Academic and Workplace Skills

Task	Skill Group	Sub Skill	Description
<b>Unit 3–B: Hydraulic Systems (cont.)</b>			
Bleed and/or flush the hydraulic brake system (J.S. 2)	Basic skills	Reading	Follows written directions; comprehends written information and applies it to a task; uses service manual to obtain procedure information
		Writing	Completes job ticket neatly with all information
	Thinking skills	Reasoning	Applies rules and principles to a new situation
	Personal management skills	Responsibility	Follows shop safety rules
	Resources	Materials and facilities	Uses materials correctly; keeps work area clean
	Technology	Application	Demonstrates the proper procedure for setting up and operating equipment
Remove, inspect, and repair or replace the hydraulic brake valve (J.S. 3)	Basic skills	Reading	Follows written directions; comprehends written information and applies it to a task; uses service manual to obtain procedure information
		Writing	Completes job ticket neatly with all information
	Thinking skills	Problem solving	Identifies problems; draws conclusions from observation
	Personal management skills	Responsibility	Follows shop safety rules
	Resources	Materials and facilities	Uses materials correctly; keeps work area clean
	Technology	Application	Demonstrates the proper procedure for setting up and operating equipment
Remove, inspect, and repair or replace the master cylinder (J.S. 4)	Basic skills	Reading	Follows written directions; comprehends written information and applies it to a task; uses service manual to obtain procedure information
		Writing	Completes job ticket neatly with all information
	Thinking skills	Problem solving	Identifies problems; draws conclusions from observations
	Personal management skills	Responsibility	Follows shop safety rules
	Resources	Materials and facilities	Uses materials correctly; keeps work area clean
			Maintenance and troubleshooting

## Related Academic and Workplace Skills

Task	Skill Group	Sub Skill	Description
<b>Unit 3–B: Hydraulic Systems (cont.)</b>			
Create flare and double flare fittings (J.S. 5)	Technology	Application	Demonstrates the proper procedure for setting up and opening equipment
		Maintenance and troubleshooting	Inspect, repairs, or replaces component/fluid as required
	Basic skills	Reading	Follows written directions; comprehends written information and applies it to a task; uses service manual to obtain procedure information
		Writing	Completes job ticket neatly with all appropriate information
	Thinking skills	Reasoning	Applies rules and principles to a new situation
	Personal management skills	Responsibility	Follows shop safety rules
	Resources	Materials and facilities	Uses materials correctly; keeps work area clean
Remove and repair or replace the wheel cylinder (J.S. 6)	Technology	Application	Demonstrates the proper procedure for setting up and operating equipment
	Basic skills	Reading	Follows written directions; comprehends written information and applies it to a task; uses service manual to obtain procedure information
		Writing	Completes job ticket neatly with all information
	Thinking skills	Problem solving	Identifies problems; draws conclusions from observations; determines repairs and/or replacements needed
	Personal management skills	Responsibility	Follows shop safety rules
	Resources	Materials and facilities	Uses materials correctly; keeps work area clean
	Technology	Application	Demonstrates the proper procedure for setting up and operating equipment
	Maintenance and troubleshooting	Inspects, repairs, or replaces component/fluid as required	

## Related Academic and Workplace Skills

Task	Skill Group	Sub Skill	Description
<b>Unit 3–B: Hydraulic Systems (cont.)</b>			
Check and adjust the parking brake (J.S. 7)	Basic skills	Reading	Follows written directions; comprehends written information and applies it to a task; uses service manual to obtain procedure information
		Writing	Completes job ticket neatly with all information
	Thinking skills	Reasoning	Applies rules and principles to a new situation
	Personal management skills	Responsibility	Follows shop safety rules
	Resources	Materials and facilities	Uses materials correctly; keeps work area clean
	Technology	Application	Demonstrates the proper procedure for setting up and operating equipment
Check operation of brake light switch; adjust or replace as needed (J.S. 8)	Basic skills	Reading	Follows written directions; comprehends written information and applies it to a task; uses service manual to obtain procedure information
		Writing	Completes job ticket neatly with all information
	Thinking skills	Problem solving	Evaluates conditions; determines needed repairs and adjustments
	Personal management skills	Responsibility	Follows shop safety rules
	Resources	Materials and facilities	Uses materials correctly; keeps work area clean
	Technology	Application	Demonstrates the proper procedure for setting up and operating equipment
		Maintenance and troubleshooting	Checks, repairs, or replaces component as required

### Unit 4–B: Power Assist Units and Related Components

Inspect and test the power assist system and emergency brake back-up system; determine needed repairs (J.S. 1)	Basic skills	Reading	Follows written directions; comprehends written information and applies it to a task; uses service manual to obtain procedure information
		Writing	Completes job ticket neatly with all information
	Thinking skills	Problem solving	Evaluates conditions; determines needed repairs and adjustments

# Related Academic and Workplace Skills

Task	Skill Group	Sub Skill	Description
<b>Unit 4–B: Power Assist Units and Related Components (cont.)</b>			
Remove, inspect, and repair or replace the power assist unit (J.S. 2)	Personal management skills	Responsibility	Follows shop safety rules
	Resources	Materials and facilities	Uses materials correctly; keeps work area clean
	Technology	Application	Demonstrates the proper procedure for setting up and operating equipment
		Maintenance and troubleshooting	Checks, inspects system
	Basic skills	Reading	Follows written directions; comprehends written information and applies it to a task; uses service manual to obtain procedure information
		Writing	Completes job ticket neatly with all information
	Thinking skills	Problem solving	Identifies problems; determines needed repairs and adjustments
	Personal management skills	Responsibility	Follows shop safety rules
	Resources	Materials and facilities	Uses materials correctly; keeps work area clean
	Technology	Application	Demonstrates the proper procedure for setting up and operating equipment
Maintenance and troubleshooting		Inspects, repairs, or replaces component/fluid as required	
Check operation of brake failure lights and braking warning devices; repair or replace as needed (J.S. 3)	Basic skills	Reading	Follows written directions; comprehends written information and applies it to a task; uses service manual and/or operator's manual to obtain procedure information
		Writing	Completes job ticket neatly with all information
	Thinking skills	Problem solving	Identifies problems; determines needed repairs
	Personal management skills	Responsibility	Follows shop safety rules
	Resources	Materials and facilities	Uses materials correctly; keeps work area clean
	Technology	Application	Demonstrates the proper procedure for setting up and operating equipment
		Maintenance and troubleshooting	Checks, repairs, or replaces parts as required

# Related Academic and Workplace Skills

Task	Skill Group	Sub Skill	Description	
<b>SECTION C: AIR BRAKES</b>				
<b>Unit 1–C: Air Foundation Brakes</b>				
Inspect, service, and adjust slack adjuster on front axle (J.S. 1)	Basic skills	Reading	Follows written directions; comprehends written information and applies it to a task; uses service manual to obtain procedure information	
		Writing	Completes job ticket neatly with all information	
	Thinking skills	Problem solving	Identifies problems; draws conclusions from observations; determines needed repairs and adjustments	
	Personal management skills	Responsibility	Follows shop safety rules	
	Resources	Materials and facilities	Uses materials correctly; keeps work area clean	
	Technology	Application	Demonstrates the proper procedure for setting up and operating equipment	
Inspect, test, service, and replace service brake chamber (J.S. 2)	Basic skills	Reading	Follows written directions; comprehends written information and applies it to a task; uses service manual to obtain procedure information	
		Writing	Completes job ticket neatly with all information	
	Thinking skills	Problem solving	Identifies problems; draws conclusions from observations; determines needed repairs	
	Personal management skills	Responsibility	Follows shop safety rules	
	Resources	Materials and facilities	Uses materials correctly; keeps work area clean	
	Technology	Application	Demonstrates the proper procedure for setting up and operating equipment	
Remove, inspect, and replace brake shoes, drum, and hardware for s-cam drum foundation brakes (J.S. 3)	Basic skills	Reading	Follows written directions; comprehends written information and applies it to a task; uses service manual to obtain procedure information	
		Writing	Completes job ticket neatly with all information	
	Thinking skills	Problem solving	Identifies problems; draws conclusions from observations; determines needed repairs and adjustments	

# Related Academic and Workplace Skills

Task	Skill Group	Sub Skill	Description
<b>Unit 1–C: Air Foundation Brakes (cont.)</b>			
Remove, inspect, and replace brake shoes, drum, and hardware for wedge-type drum foundation brakes (J.S. 4)	Personal management skills	Responsibility	Follows shop safety rules
	Resources	Materials and facilities	Uses materials correctly; keeps work area clean
	Technology	Application	Demonstrates the proper procedure for setting up and operating equipment
		Maintenance and troubleshooting	Inspects, replaces, and adjusts components as required
	Basic skills	Reading	Follows written directions; comprehends written information and applies it to a task; uses service manual to obtain procedure information
		Writing	Completes job ticket neatly with all appropriate information
	Thinking skills	Problem solving	Identifies problems; draws conclusions from observations; determines needed repairs and adjustments
	Personal management skills	Responsibility	Follows shop safety rules
	Resources	Materials and facilities	Uses materials correctly; keeps work area clean
	Technology	Application	Demonstrates the proper procedure for setting up and operating equipment
Inspect, clean, and measure brake calipers, pads, and rotors; replace pads if needed (J.S. 5)		Maintenance and troubleshooting	Inspects, replaces, and adjusts components as required
	Basic skills	Reading	Follows written directions; comprehends written information and applies it to a task; uses service manual to obtain procedure information
		Writing	Completes job ticket neatly with all appropriate information
		Math	Uses measuring device
	Thinking skills	Problem solving	Identifies problems; draws conclusions from observations; determines needed repairs and adjustments
	Personal management skills	Responsibility	Follows shop safety rules
	Resources	Materials and facilities	Uses materials correctly; keeps work area clean
	Technology	Application	Demonstrates the proper procedure for setting up and operating equipment
		Maintenance and troubleshooting	Inspects, cleans, adjusts, and replaces components as required

## Related Academic and Workplace Skills

Task	Skill Group	Sub Skill	Description
<b>Unit 2–C: Air Supply System</b>			
Identify and connect components in an air supply system (A.S. 1)	Basic skills	Reading	Follows written directions
	Thinking skills	Reasoning	Sees relationship between two or more ideas, objects, or situations
		Seeing things in the mind's eye	Visualizes a system's operation
Service the reservoir and check valve function, build-up time, and cut-out pressure (J.S. 1)	Basic skills	Reading	Follows written directions; comprehends written information and applies it to a task; uses service manual to obtain procedure information
		Writing	Completes job ticket neatly with all information
	Thinking skills	Problem solving	Identifies problems; draws conclusions from observations; determines needed repairs and adjustments
	Personal management skills	Responsibility	Follows shop safety rules
	Resources	Materials and facilities	Uses materials correctly; keeps work area clean
	Technology	Application	Demonstrates the proper procedure for setting up and operating equipment
		Maintenance and troubleshooting	Services, checks, and adjusts components as required
Inspect and service belt-driven compressor and associated lines (J.S. 2)	Basic skills	Reading	Follows written directions; comprehends written information and applies it to a task; uses service manual to obtain procedure information
		Writing	Completes job ticket neatly with all information
	Thinking skills	Problem solving	Identifies problems; draws conclusions from observations; determines needed repairs and adjustments
	Personal management skills	Responsibility	Follows shop safety rules
	Resources	Materials and facilities	Uses materials correctly; keeps work area clean
	Technology	Application	Demonstrates the proper procedure for setting up and operating equipment
		Maintenance and troubleshooting	Inspects, services, and adjusts components as required

# Related Academic and Workplace Skills

Task	Skill Group	Sub Skill	Description
<b>Unit 2–C: Air Supply System (cont.)</b>			
Inspect, service, and time gear-driven compressor, valves, and associated lines (J.S. 3)	Basic skills	Reading	Follows written directions; comprehends written information and applies it to a task; uses service manual to obtain procedure information
		Writing	Completes job ticket neatly with all information
	Thinking skills	Problem solving	Identifies problems; draws conclusions from observations; determines needed repairs and adjustments
	Personal management skills	Responsibility	Follows shop safety rules
	Resources	Materials and facilities	Uses materials correctly; keeps work area clean
Inspect and service air dryer system; repair or replace as needed (J.S. 4)	Basic skills	Reading	Follows written directions; comprehends written information and applies it to a task; uses service manual to obtain procedure information
		Writing	Completes job ticket neatly with all information
	Thinking skills	Problem solving	Identifies problems; draws conclusions from observations; determines needed repairs and adjustments
	Personal management skills	Responsibility	Follows shop safety rules
	Resources	Materials and facilities	Uses materials correctly; keeps work area clean
Technology	Application	Demonstrates the proper procedure for setting up and operating equipment	
	Maintenance and troubleshooting	Inspects, services, and adjusts components as required	

## Unit 3–C: Air Service Circuits

Identify and connect components in the air service circuits (A.S. 1)	Basic skills	Reading	Follows written directions
	Thinking skills	Reasoning	Sees relationship between two or more ideas, objects, or situations
		Seeing things in the mind's eye	Visualizes a system's operation

## Related Academic and Workplace Skills

Task	Skill Group	Sub Skill	Description	
<b>Unit 3–C: Air Service Circuits (cont.)</b>				
Inspect and test brake application (foot valve, fittings, and mounts; adjust or replace as needed (J.S. 1)	Basic skills	Reading	Follows written directions; comprehends written information and applies it to a task; uses service manual to obtain procedure information	
		Writing	Completes job ticket neatly with all information	
	Thinking skills	Problem solving	Identifies problems; draws conclusions from observations; determines needed repairs and adjustments	
	Personal management skills	Responsibility	Follows shop safety rules	
		Resources Technology	Materials and facilities	Uses materials correctly; keeps work area clean
	Application		Demonstrates the proper procedure for setting up and operating equipment	
Inspect and test stop light circuit switches, wiring, and connectors; repair or replace as needed (J.S. 2)	Basic skills	Reading	Follows written directions; comprehends written information and applies it to a task; uses service manual to obtain procedure information	
		Writing	Completes job ticket neatly with all information	
	Thinking skills	Problem solving	Identifies problems; draws conclusions from observations; determines needed repairs and adjustments	
	Personal management skills	Responsibility	Follows shop safety rules	
	Resources Technology	Materials and facilities	Uses materials correctly; keeps work area clean	
		Application	Demonstrates the proper procedure for setting up and operating equipment	
		Maintenance and troubleshooting	Inspects, tests, repairs or replaces parts	
			Inspects, tests, repairs or replaces parts	
Inspect and test relay valve; replace as needed (J.S. 3)	Basic skills	Reading	Follows written directions; comprehends written information and applies it to a task; uses service manual to obtain procedure information	
		Writing	Completes job ticket neatly with all information	
	Thinking skills	Problem solving	Identifies problems; draws conclusions from observations; determines needed repairs and adjustments	
	Personal management skills	Responsibility	Follows shop safety rules	

## Related Academic and Workplace Skills

Task	Skill Group	Sub Skill	Description
<b>Unit 3–C: Air Service Circuits (cont.)</b>			
Inspect and test quick release valve; replace as needed (J.S. 4)	Resources	Materials and facilities	Uses materials correctly; keeps work area clean
	Technology	Application	Demonstrates the proper procedure for setting up and operating equipment
		Maintenance and troubleshooting	Inspects, tests, repairs or replaces parts
	Basic skills	Reading	Follows written directions; comprehends written information and applies it to a task; uses service manual to obtain procedure information
		Writing	Completes job ticket neatly with all information
	Thinking skills	Problem solving	Identifies problems; draws conclusions from observations; determines needed repairs and adjustments
	Personal management skills	Responsibility	Follows shop safety rules
	Resources	Materials and facilities	Uses materials correctly; keeps work area clean
	Technology	Application	Demonstrates the proper procedure for setting up and operating equipment
		Maintenance and troubleshooting	Inspects, tests, repairs or replaces parts
<b>Unit 4–C: Special Circuits</b>			
Identify and connect components in a truck brake system (A.S. 1)	Basic skills	Reading	Follows written directions
	Thinking skills	Reasoning	Sees relationship between two or more ideas, objects, or situations
		Seeing things in the mind's eye	Visualizes a system's operation
Identify and connect components in a tractor brake system (A.S. 2)	Basic skills	Reading	Follows written directions
	Thinking skills	Reasoning	Sees relationship between two or more ideas, objects, or situations
		Seeing things in the mind's eye	Visualizes a system's operation
Inspect and test parking brake hand (control) valve; replace as needed (J.S. 1)	Basic skills	Reading	Follows written directions; comprehends written information and applies it to a task; uses service manual to obtain procedure information
		Writing	Completes job ticket neatly with all information
	Thinking skills	Problem solving	Identifies problems; draws conclusions from observations; determines needed repairs and adjustments

## Related Academic and Workplace Skills

Task	Skill Group	Sub Skill	Description	
<b>Unit 4–C: Special Circuits (cont.)</b>				
Inspect and test inversion valve; replace as needed (J.S. 2)	Personal management skills	Responsibility	Follows shop safety rules	
	Resources	Materials and facilities	Uses materials correctly; keeps work area clean	
	Technology	Application	Demonstrates the proper procedure for setting up and operating equipment	
		Maintenance and troubleshooting	Inspects, tests, repairs or replaces components as needed	
	Basic skills	Reading	Follows written directions; comprehends written information and applies it to a task; uses service manual to obtain procedure information	
		Writing	Completes job ticket neatly with all information	
	Thinking skills	Problem solving	Identifies problems; draws conclusions from observations; determines needed repairs and adjustments	
	Inspect and test anti-compounding circuit equipped with Quick Release (QR) 1-C; replace as needed (J.S. 3)	Personal management skills	Responsibility	Follows shop safety rules
		Resources	Materials and facilities	Uses materials correctly; keeps work area clean
		Technology	Application	Demonstrates the proper procedure for setting up and operating equipment
Maintenance and troubleshooting			Inspects, tests, repairs or replaces components as required	
Basic skills		Reading	Follows written directions; comprehends written information and applies it to a task; uses service manual to obtain procedure information	
		Writing	Completes job ticket neatly with all information	
Thinking skills		Problem solving	Identifies problems; draws conclusions from observations; determines needed repairs and adjustments	
Personal management skills		Responsibility	Follows shop safety rules	
		Resources	Materials and facilities	Uses materials correctly; keeps work area clean
		Technology	Application	Demonstrates the proper procedure for setting up and operating equipment
	Maintenance and troubleshooting		Inspects, tests, repairs or replaces components as required	

# Related Academic and Workplace Skills

Task	Skill Group	Sub Skill	Description
<b>Unit 4–C: Special Circuits (cont.)</b>			
Inspect and test trailer air supply valve; replace as needed (J.S. 4)	Basic skills	Reading	Follows written directions; comprehends written information and applies it to a task; uses service manual to obtain procedure information
		Writing	Completes job ticket neatly with all information
	Thinking skills	Problem solving	Identifies problems; draws conclusions from observations; determines needed repairs and adjustments
	Personal management skills	Responsibility	Follows shop safety rules
	Resources	Materials and facilities	Uses materials correctly; keeps work area clean
Inspect and test trailer brake control valve (hand valve); replace as needed (J.S. 5)	Basic skills	Reading	Follows written directions; comprehends written information and applies it to a task; uses service manual to obtain procedure information
		Writing	Completes job ticket neatly with all information
	Thinking skills	Problem solving	Identifies problems; draws conclusions from observations; determines needed repairs and adjustments
	Personal management skills	Responsibility	Follows shop safety rules
	Resources	Materials and facilities	Uses materials correctly; keeps work area clean
Inspect and test tractor protection valve; replace as needed (J.S. 6)	Basic skills	Reading	Follows written directions; comprehends written information and applies it to a task; uses service manual to obtain procedure information
		Writing	Completes job ticket neatly with all information
	Thinking skills	Problem solving	Identifies problems; draws conclusions from observations; determines needed repairs and adjustments
	Personal management skills	Responsibility	Follows shop safety rules

## Related Academic and Workplace Skills

Task	Skill Group	Sub Skill	Description
<b>Unit 4–C: Special Circuits (cont.)</b>			
Check operation of parking brake; remove, inspect, and replace parking brake (spring brake) chamber as needed (J.S. 7)	Resources	Materials and facilities	Uses materials correctly; keeps work area clean
	Technology	Application	Demonstrates the proper procedure for setting up and operating equipment
		Maintenance and troubleshooting	Inspects, tests, repairs or replaces components as required
	Basic skills	Reading	Follows written directions; comprehends written information and applies it to a task; uses service manual to obtain procedure information
		Writing	Completes job ticket neatly with all information
	Thinking skills	Problem solving	Identifies problems; draws conclusions from observations; determines needed repairs and adjustments
	Personal management skills	Responsibility	Follows shop safety rules
	Resources	Materials and facilities	Uses materials correctly; keeps work area clean
	Technology	Application	Demonstrates the proper procedure for setting up and operating equipment
Maintenance and troubleshooting		Inspects, tests, repairs or replaces components as required	
<b>Unit 5–C: Trailer Air Brake Systems</b>			
Identify and connect components of a trailer full function air brake system (A.S. 1)	Basic skills	Reading	Follows written directions
	Thinking skills	Reasoning	Sees relationship between two or more ideas, objects, or situations
		Seeing things in the mind's eye	Visualizes a system's operation
Inspect and test tractor trailer gladhands; repair or replace as needed (J.S. 1)	Basic skills	Reading	Follows written directions; comprehends written information and applies it to a task; uses service manual to obtain procedure information
		Writing	Completes job ticket neatly with all information
	Thinking skills	Problem solving	Identifies problems; draws conclusions from observations; determines needed repairs and adjustments
	Personal management skills	Responsibility	Follows shop safety rules
	Resources	Materials and facilities	Uses materials correctly; keeps work area clean

## Related Academic and Workplace Skills

Task	Skill Group	Sub Skill	Description
<b>Unit 5–C: Trailer Air Brake Systems (cont.)</b>			
Inspect and test trailer brake full function valve; replace as needed (J.S. 2)	Technology	Application	Demonstrates the proper procedure for setting up and operating equipment
		Maintenance and troubleshooting	Inspects, tests, repairs or replaces components as required
	Basic skills	Reading	Follows written directions; comprehends written information and applies it to a task; uses service manual to obtain procedure information
		Writing	Completes job ticket neatly with all information
	Thinking skills	Problem solving	Identifies problems; draws conclusions from observations; determines needed repairs and adjustments
	Personal management skills	Responsibility	Follows shop safety rules
	Resources	Materials and facilities	Uses materials correctly; keeps work area clean
	Technology	Application	Demonstrates the proper procedure for setting up and operating equipment
	Maintenance and troubleshooting	Inspects, tests, repairs or replaces components as required	