Collision Repair Technology

I. Repair depressed area(s) on a steel panel with plastic body filler to related tasks in the National Automotive Technicians Foundation (NATEF) Collision Repair/Refinishing Non-Structural Analysis and Damage Repair Technical Standards (ASE B3 Test)

Tasks Instructions:

Each number to the right refers to a single student/candidate (1-10). Place a										
check (/) in the respective column for the appropriate student/candidate										
number (1-10) if the skills listed below are observed as stated. Leave blank if	1	2	3	4	5	6	7	8	9	10
not observed. Student/candidate will only get credit for the skills they have		2	3	4	5	0	/	0	9	10
demonstrated.										
Clean contaminants from a damaged panel										
Locate surface irregularities on a damaged panel										
Remove finish from the damaged area(s) as necessary										
Apply hammer and dolly techniques to repair damage										
Mix and apply plastic body filler on a steel panel										
Rough sand cured body filler to contour										
Finish sand										
Safety and infection control are adhered to during all aspects of this task.										
The student completed task within the time limited.										
Points earned										
Total possible points (9)										

II. Repair depressed area using shrinking techniques on a steel panel to related tasks in the National Automotive

Technicians Foundation (NATEF) Collision Repair/Refinishing Non-structural Analysis and Damage Repair Technical Standards (ASE B3 Test)

Tasks Instructions:

	1	2	3	4	5	6	7	8	9	10
Clean contaminants from a damaged panel										
Locate surface irregularities on a damaged panel										
Remove finish from the damaged area(s) as necessary										
Identify hammer and dolly techniques to repair damage										
Describe the cold shrinking process as necessary										
Describe the heat shrinking process as necessary										
Demonstrate the cold shrinking process as necessary										
Demonstrate the heat shrinking process as necessary										
Safety and infection control are adhered to during all aspects of this task.										
The student completed task within the time limited.										
Points earned										
Total possible points (10)										
		•	•			•	•	•	•	
III. Repair depressed areas using metal finishing techniques on a steel panel	l to i	relat	ed ta	asks	s in t	he N	atio	nal		
Automotive Technicians Foundation (NATEF) Collision Repair/Refinishing No Repair Technical Standards (ASE B3 Test)	on-S	struc	tura	l An	alysi	is an	d Da	amag	ge	
Tasks Instructions:										
	1	2	3	4	5	6	7	8	9	10
Clean contaminants from a damaged panel										
Locate surface irregularities on a damaged panel										
Remove finish from the damaged area(s) as necessary										
Demonstrate various uses of the metal finishing tools										
Safety and infection control are adhered to during all aspects of this task.										
The student completed task within the time limited.										
Points earned										
Total possible points (6)					1					

IV. Prepare steel panel for primer application to related tasks in National Aut	tomo	otive	Тес	hnic	ians	s Foι	unda	tion		
(NATEF) Collision Repair/Refinishing Painting and Refinishing Technical Sta	Indai	rds (ASE	B2	Test)				
Tasks Instructions:										
	1	2	3	4	5	6	7	8	9	10
Clean contaminants from a damaged panel										
Featheredge paint/E-coat as necessary										
Sand/Scuff bare metal as necessary										
Safety and infection control are adhered to during all aspects of this task.										
The student completed task within the time limited.										
Points earned										
Total possible points (5)										
V. Demonstrate welding skills needed for collision repair of steel panels to re Technicians Education Foundation (NATEF) Collision Repair/Refinishing Nor Technical Standards, National Automotive Technicians Education Foundatio Structural Analysis and Damage Repair Technical Standards, (ASE B3 and B Qualification Test (WQT)	n-str on (N	uctu ATE	ral / F) C	Anal <u>y</u> ollis	ysis ion I	and Repa	Dan air/R	nage efini	Rep	oair
Tasks Instructions:	1	T	Γ	I	Ι	I	T	I	Γ	Γ
	1	2	3	4	5	6	7	8	9	10
Make a plug weld using 18-gauge metal coupons in the vertical position using a GMA (MIG) welder										
Make a butt joint with backing weld using 18-gauge metal coupons in the vertical position using a GMA (MIG) welder										
Make a fillet weld on lap using 18-gauge metal coupons in the vertical position using a GMA (MIG) welder.										
Make a plug weld using 18-gauge metal coupons in the overhead position using a GMA (MIG) welder.										
Make a butt joint with backing weld using 18-gauge metal coupons in the overhead position using a GMA (MIG)welder.										
Make a fillet weld on lap using 18-gauge metal coupons in the overhead position using a GMA (MIG) welder.										

Safety and infection control are adhered to during all aspects of this task.										
The student completed task within the time limited.										
Points earned										
Total possible points (8)										
		•			•	•				
VI. Complete backside reinforced cosmetic surface repair on a plastic veh	icle pa	art. N	lix a	nd a	pply	/ app	orop	riate		
material corresponding with the related tasks in the National Automotive T Repair/Refinishing Non-Structural Analysis and Damage Analysis (ASE B3 segment. Participants will be expected to successfully complete each segr knowledge in chemistry	Test).	A 20)-po	int s	cale	is u	sed	for e		
Tasks Instructions:										
	1	2	3	4	5	6	7	8	9	10
Demonstrate an understanding of the importance to clean before making any repair										
Damage preparation before adhesive work										
Demonstrate an understanding of appropriate abrasive grade sequence for										
reinforcing plastic repair. (Typically 50 and 80)										
Apply a light coating of adhesion promoter and allow to dry adequately										
Demonstrate the ability to open, load, and equalize the cartridge, attach the mixing nozzle, and discard the first pump of material										
Demonstrate proper spreading techniques: Apply a thin, tight coat of material,										
then build a thin layer of adhesive followed by reinforcing mesh and an additional layer of adhesive										
Safety and infection control are adhered to during all aspects of this task.										
The student completed task within the time limited.										
Points earned										
Total possible points (8)										
		-			-	-				
VII. Complete a front-side cosmetic surface repair on a plastic vehicle part	. Mix a	and a	appl	y ap	prop	oriate	e ma	teria		
corresponding with the related tasks in the National Automotive Technician	ns Fol	ında	tion	(NA	TEF) and	l the		Ξ	
Collision Repair/Refinishing Non-structural Analysis and Damage (B3) Cert										for

each segment. Participants will be expected to successfully complete each segment. Participants should have some basic knowledge in chemistry

Tasks Instructions:

	1	2	3	4	5	6	7	8	9	10
Demonstrate an understanding of the importance of cleaning before making										
any repair										
Damage preparation before adhesive work										
Demonstrate an understanding of appropriate abrasive grade sequence for plastic repair (Typically 50, 80, adhesive application, 80, 180, 320)										
Demonstrate an understanding of the need to keep very coarse grade scratches (80 grit) inside valley of repair and not on surrounding plastic, to avoid creating "fuzzies" that will be difficult to conceal in the finished paint work										
Demonstrate understanding of the difference between "Veeing Out" a repair										
(incorrect) and "Dishing Out" a repair (correct), and how that relates to the finished product (no ghost lines)										
Apply a light coating of adhesion promoter and allow to dry adequately										
Demonstrate the ability to load, open, and equalize the cartridge, attach the mixing nozzle, and discard the first pump of material										
Demonstrate proper spreading techniques: Apply a thin, tight coat of material, build in thin layers, and avoid air entrapment as they build slightly higher than the surrounding areas										
Demonstrate test to determine readiness to sand (check with fingernail, see if it leaves a white mark in the adhesive)										
Safety and infection control are adhered to during all aspects of this task.										
The student completed task within the time limited.										
Points earned										
Total possible points (11)										
VIII. Complete a tab repair on plastic vehicle part. Mix and apply appropriate tasks in the National Automotive Technicians Foundation (NATEF) and The Structural Analysis and Damage (B3) Certification Test. A 20- point scale is be expected to successfully complete each segment. Participants should have	ASE used	Colli for e	isior each	n Rej n seg	pair/ gmei	/Refi nt. Pa	nish artic	ing l ipan	Non- Its w	ill
Tasks Instructions:										
	1	2	3	4	5	6	7	8	9	10
Demonstrate an understanding of the importance of cleaning before making any repair										
Demonstrate an understanding of appropriate abrasive grade sequence for										
tab repair (Typically 50 and 80) Apply a light coating of adhesion promoter and allow to dry adequately										

Demonstrate the ability to load, open and equalize the cartridge, attach the mixing nozzle, and discard the first pump of material										
Demonstrate proper "molding" techniques, using contour sheeting, and			-							
form a new tab										
Demonstrate test to determine readiness to sand (check with fingernail, see if it leaves a white mark in the adhesive)										
Safety and infection control are adhered to during all aspects of this task.										
The student completed task within the time limited.										
Points earned										
Total possible points (8)										
	1	1				1				1
IX. Complete surface preparation and related tasks in the National Automotiv	ve Te	echn	icia	ns Fo	ound	datio	on (N	ATE	F) a	nd
the ASE Collision Repair/Refinishing Non-structural Analysis and Damage (E used for each segment. Participants will be expected to successfully comple have some basic knowledge in chemistry										
Tasks Instructions:										
	1	2	3	4	5	6	7	8	9	10
Demonstrate the ability to use 50 grit abrasive on a high speed grinder to rough			-		-					
shape the formed tab, followed by 180 grit on a DA to finely shape the tab, and										
lastly, a 320-grit abrasive to prepare the featheredge for the painting process										
Demonstrate the ability to use an 80 grit abrasive to "knock down" the bulk of the										
excess cosmetic repair material without										
abrading the surrounding plastic, which would leave "fuzzies" Demonstrate the ability to use 180-grit abrasive to successfully level the repair										
material and feather into the surrounding area										
Finish sand the repair and surrounding area with 320-grit abrasive to prepare for										
painting process										
Demonstrate the best practice of reapplying adhesion promoter after the final										
sanding step, to assure paint adhesion									'	
Safety and infection control are adhered to during all aspects of this task.										
The student completed task within the time limited.										
Points earned										
Total possible points (7)										
X. Describe basic steering and suspension components of the vehicle to re	lated	d tas	ks iı	n the	Nat	iona	al			
Automotive Technicians Foundation (NATEF) Collision Repair/Refinishing Material Standards* (ASE B5 Test)	echa	nica	ıl an	d Ele	ectri	cal (Com	pone	ents	

Tasks Instructions:

	T	1	1	1	1	1		r		1
	1	2	3	4	5	6	7	8	9	10
Identify the illustrated steering and suspension components										
Describe steering and suspension geometry to related tasks in National Automotive Technicians Foundation (NATEF) Collision Repair/Refinishing Mechanical and Electrical Components Technical Standards* (ASE B5 Test) Apply the number of angle to the definition that describes it										
Identify the problem or problems that result when the vehicle's tie rods and lower control arms pivot points do not remain parallel to each other as the vehicle's body moves down (jounce) and up (rebound) as it travels along the road										
Safety and infection control are adhered to during all aspects of this task.										
The student completed task within the time limited.										
Points earned										
Total possible points (6)										
XI. Perform structural damage analysis and related information to related tas	eke i									
	3131	n Na	ation	al A	uton	notiv	/e Te	echn	icia	ns
Foundation (NATEF) Collision Repair and Refinishing Structural Analysis and (ASE B4 Test)										
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Foundation (NATEF) Collision Repair and Refinishing Structural Analysis and (ASE B4 Test) Tasks Instructions: Describe the structural damage analysis questions or complete the statement	d Da	mag	le Re		⁻ Tec	hnic	al S	tand	lards	5*
Foundation (NATEF) Collision Repair and Refinishing Structural Analysis and (ASE B4 Test) Tasks Instructions: Describe the structural damage analysis questions or complete the statement using the choices given Perform structural realignment to related tasks in National Automotive Technicians Foundation (NATEF) Collision Repair and Refinishing Structural Analysis and Damage Repair Technical Standards* (ASE B4 Test)	d Da	mag	le Re		⁻ Tec	hnic	al S	tand	lards	5*
Foundation (NATEF) Collision Repair and Refinishing Structural Analysis and (ASE B4 Test) Tasks Instructions: Describe the structural damage analysis questions or complete the statement using the choices given Perform structural realignment to related tasks in National Automotive Technicians Foundation (NATEF) Collision Repair and Refinishing Structural Analysis and Damage Repair Technical Standards* (ASE B4 Test) Illustrate the different types of structural realignments along with choices for	d Da	mag	le Re		⁻ Tec	hnic	al S	tand	lards	5*
Foundation (NATEF) Collision Repair and Refinishing Structural Analysis and (ASE B4 Test) Tasks Instructions: Describe the structural damage analysis questions or complete the statement using the choices given Perform structural realignment to related tasks in National Automotive Technicians Foundation (NATEF) Collision Repair and Refinishing Structural Analysis and Damage Repair Technical Standards* (ASE B4 Test)	d Da	mag	le Re		⁻ Tec	hnic	al S	tand	lards	5*
Foundation (NATEF) Collision Repair and Refinishing Structural Analysis and (ASE B4 Test) Tasks Instructions: Describe the structural damage analysis questions or complete the statement using the choices given Perform structural realignment to related tasks in National Automotive Technicians Foundation (NATEF) Collision Repair and Refinishing Structural Analysis and Damage Repair Technical Standards* (ASE B4 Test) Illustrate the different types of structural realignments along with choices for supporting (blocking), securing (holding) and pulling the structure to realign it	d Da	mag	le Re		⁻ Tec	hnic	al S	tand	lards	5*

Points earned										
Total possible points (6)										
		•			•					
XII. Determine the location of the vehicle's major										
control points using the damage simulator to related tasks in National Automotive Technicians Foundation (NATEF) Collision Repair and Refinishing Structural Analysis and Damage Repair Technical Standards* (ASE B4 Test)										
Tasks Instructions:										
	1	2	3	4	5	6	7	8	9	10
Locate the major control points of the vehicle's lower structure										
Determine the locations of all steering, suspension and powertrain component attaching points										
Gauge and measure the vehicle's lower structure using the damage simulator to related tasks in National Automotive Technicians Foundation (NATEF) Collision Repair and Refinishing Structural Analysis and Damage Repair Technical Standards (ASE B4 Test)										
Set the correct height (datum) dimensions on the gauges by using the data chart										
Install the gauges at the major control points										
Safety and infection control are adhered to during all aspects of this task.										
The student completed task within the time limited.										
Points earned										
Total possible points (7)										
XIII. Read the gauges and measure using the damage										
simulator to related tasks in National Automotive Technicians Foundation (NATEF) Collision Repair and Refinishing Structural Analysis and Damage Repair Technical Standards (ASE B4 Test)										
Tasks Instructions:										
	1	2	3	4	5	6	7	8	9	10

Measure critical diagonal, length and width measurements of the structure										
Sight the gauges and determine if there is a centerline (sideways) or height misalignment of the structure										
Gauge, measure and analyze structural, steering and suspension misalignment of a body on frame vehicle using the gauge measuring system to related tasks in National Automotive Technicians Foundation (NATEF) Collision Repair and Refinishing Structural Analysis and Damage Repair Technical Standards (ASE B4 Test)										
Measure the damaged vehicle's structure, steering and suspension by using a tram gauge and a tape measure										
Determine the different types of misalignments that the vehicle's structure has sustained by using a mechanical measuring system										
Record the misalignments identified and analyze the types and amount of damage the vehicle has sustained										
Safety and infection control are adhered to during all aspects of this task.										
The student completed task within the time limited.										
Points earned										
Total possible points (8)										
XIV. Measure and analyze structural, steering and suspension misalignment	ofa	a uni	tizec	d bo	dy vo	ehic	le us	sing		
a computerized measuring system to related tasks in the National Automotiv	e Te	chni	ician	is Fo	ound	atio	n (N	ATE	F)	
	e Te	chni	ician	is Fo	ound	atio	n (N	ATE	F)	
a computerized measuring system to related tasks in the National Automotiv Collision Repair and Refinishing Structural Analysis and Damage Repair Tec	e Te	chni	ician	is Fo	ound	atio	n (N	ATE	F)	
a computerized measuring system to related tasks in the National Automotiv Collision Repair and Refinishing Structural Analysis and Damage Repair Tec	e Te	chni	ician	is Fo	ound	atio	n (N	ATE	F)	
a computerized measuring system to related tasks in the National Automotiv Collision Repair and Refinishing Structural Analysis and Damage Repair Tec	e Te	chni	ician	is Fo	ound	atio	n (N	ATE	F) 9	10
a computerized measuring system to related tasks in the National Automotiv Collision Repair and Refinishing Structural Analysis and Damage Repair Tec Tasks Instructions:	e Te hnic	chni al S	ician tand	is Fo ards	bund s* (A	atio	n (N 34 Te	ATE est)		10
a computerized measuring system to related tasks in the National Automotiv Collision Repair and Refinishing Structural Analysis and Damage Repair Tec Tasks Instructions:	e Te hnic	chni al S	ician tand	is Fo ards	bund s* (A	atio	n (N 34 Te	ATE est)		10
a computerized measuring system to related tasks in the National Automotiv Collision Repair and Refinishing Structural Analysis and Damage Repair Tec Tasks Instructions: Determine the different types of misalignment the vehicle's structure, steering and suspension have sustained	e Te hnic	chni al S	ician tand	is Fo ards	bund s* (A	atio	n (N 34 Te	ATE est)		10
a computerized measuring system to related tasks in the National Automotiv Collision Repair and Refinishing Structural Analysis and Damage Repair Tec Tasks Instructions: Determine the different types of misalignment the vehicle's structure, steering and suspension have sustained Record the misalignments identified	e Te hnic	chni al S	ician tand	is Fo ards	bund s* (A	atio	n (N 34 Te	ATE est)		10
a computerized measuring system to related tasks in the National Automotiv Collision Repair and Refinishing Structural Analysis and Damage Repair Tec Tasks Instructions: Determine the different types of misalignment the vehicle's structure, steering and suspension have sustained Record the misalignments identified Analyze the type and amount of damage the vehicle has sustained	e Te hnic	chni al S	ician tand	is Fo ards	bund s* (A	atio	n (N 34 Te	ATE est)		10
a computerized measuring system to related tasks in the National Automotiv Collision Repair and Refinishing Structural Analysis and Damage Repair Tec Tasks Instructions: Determine the different types of misalignment the vehicle's structure, steering and suspension have sustained Record the misalignments identified Analyze the type and amount of damage the vehicle has sustained Safety and infection control are adhered to during all aspects of this task.	e Te hnic	chni al S	ician tand	is Fo ards	bund s* (A	atio	n (N 34 Te	ATE est)		10
a computerized measuring system to related tasks in the National Automotiv Collision Repair and Refinishing Structural Analysis and Damage Repair Tec Tasks Instructions: Determine the different types of misalignment the vehicle's structure, steering and suspension have sustained Record the misalignments identified Analyze the type and amount of damage the vehicle has sustained Safety and infection control are adhered to during all aspects of this task. The student completed task within the time limited.	e Te hnic	chni al S	ician tand	is Fo ards	bund s* (A	atio	n (N 34 Te	ATE est)		10
a computerized measuring system to related tasks in the National Automotiv Collision Repair and Refinishing Structural Analysis and Damage Repair Tec Tasks Instructions: Determine the different types of misalignment the vehicle's structure, steering and suspension have sustained Record the misalignments identified Analyze the type and amount of damage the vehicle has sustained Safety and infection control are adhered to during all aspects of this task. The student completed task within the time limited. Points earned	e Te hnic	chni al S	ician tand	is Fo ards	bund s* (A	atio	n (N 34 Te	ATE est)		10

Total possible points for all sections (B) 104					
Student/candidate score (divide A/B)					