



Correlation of
Auto Collision Repair and Refinishing, 2e, ©2017
to the
Texas Essential Knowledge and Skills (TEKS)
Course: §130.456 Collision Repair (MLC 9461)

The following chart lists the Knowledge and Skills Statements and Student Expectations for the Texas Essential Knowledge and Skills (TEKS) for Collision Repair. For each Student Expectation, the corresponding pages in *Auto Collision Repair and Refinishing* are listed.

Student Expectations	Textbook Page(s)
(1) The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:	
(1) (A) demonstrate an understanding of workplace safety and environmental responsibilities regarding automotive collision repair and understand the use of personal protective equipment	18–38, 116, 318, 753
(1) (B) identify employment opportunities, including entrepreneurship opportunities, and certification requirements for the fields of collision repair	10–14, 852–858, 864–865
(1) (C) demonstrate the principles of group participation and leadership related to citizenship and career preparation	11–13, 862, 866–868
(1) (D) identify employers' expectations and appropriate work habits	11–13, 29–35, 865–867
(1) (E) review the competencies related to resources, information systems, and technology	96–98, 363, 661, 830–831
(1) (F) apply reasoning skills to a variety of workplace situations in order to make ethical decisions	841, 867
(2) The student relates core academic skills to the requirements of collision repair. The student is expected to:	
(2) (A) apply effective oral and written communication skills with individuals from various cultures such as fellow workers, management, and customers	866
(2) (B) use technical writing skills to complete collision repair orders and related paperwork	824–825, 842–845
(2) (C) locate, read, and interpret documents such as service and repair information, technical bulletins, specifications, schematics, and parts catalogs	96–98, 830–835, 842–845

Student Expectations	Textbook Page(s)
(2) (D) apply mathematical skills to the estimating process such as establishing charges and totals, profit margins, technician productivity, and shop efficiency	825–826, 830–842
(3) The student understands the technical knowledge and skills of collision repair. The student is expected to:	
(3) (A) demonstrate an understanding of basic types of repair procedures for the different types of vehicle body construction used in the auto collision industry	7–8, 67–76, 174–203
(3) (B) demonstrate an understanding of pre-repair and repair inspection of non-damaged components	175–176, 209, 238
(3) (C) demonstrate the proper preparation, application, and refinishing of various paint products	656–668, 737, 753–766, 783–789
(3) (D) estimate parts and labor costs of collision repair	826–828, 830–841
(3) (E) perform precision measurements to diagnose vehicle body shape and frame alignment angles	342–363, 376, 398–399
(4) The student knows the function and application of tools, equipment, technologies, and materials used in collision repair. The student is expected to:	
(4) (A) use hand and power tools and equipment commonly employed in collision repair, according to industry safety standards	83–96, 146–166, 318–337, 596–624
(4) (B) identify proper welding and cutting techniques and processes in collision repair	117–136, 138–139, 240–244, 280–282
(4) (C) properly handle and dispose of environmentally hazardous materials used in collision repair and refinishing technologies	21–22, 33–34, 36–38, 541, 548, 613
(4) (D) demonstrate knowledge of new and emerging collision repair	47–48, 167, 169, 202–203, 611–612, 629, 636–637
(5) The student applies the technical knowledge and skills of collision repair and refinishing to simulated or actual work situations. The student is expected to:	
(5) (A) perform regular audits and inspections to maintain compliance with safety, health, and environmental regulations	21–22, 25–38, 116–117, 541, 548
(5) (B) identify types of vehicle construction materials and associated repair methods	44–49, 179–195, 202–203, 271, 276–291, 296–297
(5) (C) identify methods of collision energy management and types of damage	7–8, 44–47, 60–76, 175–176
(5) (D) determine vehicle damage and prepare an estimate of the repair costs	175–176, 209, 818–842

Student Expectations	Textbook Page(s)
(5) (E) determine body panel damage and identify the associated repair methods, including inspection, disassembly, and repair or replacement of components	174–203, 209–210, 238–264, 276–291
(5) (F) inspect, remove, replace, and align various body components such as hoods, hinges, latches, and bumper covers	342–363, 370–371, 398–400, 428–438, 440–453
(5) (G) identify types of vehicle finishes and associated refinish techniques	628–629, 633–642, 674–693, 753–763, 783–789
(5) (H) inspect, remove, and replace bolted, bonded, and welded panels or panel assemblies	67–69, 209–233, 235, 238–264, 276–278, 280–282, 819–822
(5) (I) identify vehicle occupant restraint systems and associated repair methods	8, 576–591
(5) (J) identify vehicle body components and assess for repair or replacement	49–54, 62–73, 175–176, 209, 238–239, 277
(5) (K) demonstrate the welding and cutting processes used in vehicle collision repair	117–136, 138–139, 240–244, 280–282
(5) (L) remove, install, and adjust vehicle mechanical systems and electrical components	474–490, 501–502, 510–515, 528–529, 542–543, 566–572
(5) (M) identify and determine the cause of paint and refinishing defects	678–685, 768–773, 810–813
(5) (N) discuss interior and exterior trim repair	177, 217, 250, 447–448, 804–807, 827–828
(5) (O) discuss corrosion protection, including sealers, adhesives, and under-coatings	111, 437, 708, 710, 721, 723–724
(5) (P) prepare damaged area using water-based and solvent-based cleaners	277, 702, 713, 779–780
(5) (Q) demonstrate vehicle detailing	784–789, 794–813
(5) (R) restore sound deadeners and foam materials	54–55, 253, 432, 437
(5) (S) diagnose and repair water leaks, dust leaks, and wind noise	211, 312
(6) The student applies the technical knowledge and skills of metal finishing and body filling to simulated or actual work situations. The student is expected to:	
(6) (A) remove paint from damaged area of a body panel	647, 703–706, 710–713
(6) (B) identify and repair surface irregularities on a damaged body panel	175–176, 179–195, 202–203, 238–239
(6) (C) demonstrate hammer and dolly techniques for dent repair	182–183, 188, 191, 193–194

Student Expectations	Textbook Page(s)
(6) (D) heat shrink stretched panel areas to proper contour	137–138, 186–188
(6) (E) cold shrink stretched panel areas to proper contour	147, 149, 186–188, 202
(6) (F) identify, prepare, and apply body filler	166–167, 196–202
(6) (G) rough sand body filler to contour panel and finish sand for the application of primer	198–201, 643, 722
(6) (H) determine the proper metal finishing techniques for aluminum	47–48, 168–169, 450, 721
(6) (I) determine the proper application of body filler to aluminum	166–167, 196–201
(7) The student applies the technical knowledge and skills of moveable glass and hardware to simulated or actual work situations. The student is expected to:	
(7) (A) inspect, adjust, repair, or replace window systems such as regulators, run channels, glass, power mechanisms, and related controls	302–312, 450–451
(7) (B) inspect, adjust, remove, repair, or reinstall body sealing systems such as weather stripping	437, 649, 720
(7) (C) inspect, adjust, repair, or replace regulators, run channels, glass, power mechanisms, and related controls for roof panel options such as sunroofs and convertible tops	254–255, 297–299, 310, 499, 504–506, 515
(7) (D) inspect, remove, reinstall, and align convertible tops and related mechanisms	
(8) The student applies the technical knowledge and skills of plastics and adhesives to simulated or actual work situations. The student is expected to:	
(8) (A) identify the types of plastics used in automotive applications	48–49, 271, 285–291
(8) (B) clean and prepare the surface of plastic parts	277, 285–291, 779–780
(8) (C) repair rigid, semi-rigid, or flexible plastic panels	48, 271–276, 279–287
(8) (D) remove or repair damaged areas from rigid exterior composite panels	279–284, 289–291
(8) (E) replace bonded rigid exterior composite body panels, including straightening or aligning panel supports	278, 289–291

Student Expectations	Textbook Page(s)
(9) The student applies the technical knowledge and skills of damage analysis to simulated or actual work situations. The student is expected to:	
(9) (A) prepare vehicle for inspection by providing access to damaged areas	177–179, 240, 819–822
(9) (B) analyze damage to determine appropriate methods for overall repairs	175–177, 209–211, 238–239
(9) (C) perform visual inspection of structural components and members	67–76, 370–371, 398–399
(9) (D) identify structural damage using measuring tools and equipment	333–334, 342–363
(9) (E) perform visual inspection of non-structural components and members	175–176, 238–239
(9) (F) determine parts, components, material type(s), and procedures necessary for a proper repair	174–203, 208–209, 211–233, 246–264, 271–291, 432–437, 527–532, 564–572
(9) (G) identify type and condition of finish and determine if refinishing is required	628–652, 768–773, 794–807, 810–813
(9) (H) identify suspension, electrical, and mechanical component physical damage	8–9, 461–466, 469–474, 497–498, 506–515, 564–572
(9) (I) identify safety systems physical damage	8, 585–591
(9) (J) identify interior component damage	536–550, 585–591
(9) (K) identify damage to add-on accessories and modifications	784–789, 802–807, 819–822, 827–828, 842–845
(9) (L) identify single/one-time use components	103–104, 579–585, 821
(10) The student applies the technical knowledge and skills of estimating in simulated or actual work situations. The student is expected to:	
(10) (A) locate and record customer/vehicle owner information	818–822, 842–845, 866
(10) (B) locate and record vehicle identification number (VIN) information, including nation of origin, make, model, restraint system, body type, production date, engine type, and assembly plant	300, 828, 842–845
(10) (C) identify and record vehicle options, including trim level, paint code, accessories, and modifications	656, 784–789, 802–807, 819–822, 827–828, 842–845
(10) (D) identify the safety systems	8, 576–585
(10) (E) apply appropriate estimating and parts terminology	818–828, 842–845
(10) (F) determine and apply appropriate estimating sequence	4–6, 818–845

Student Expectations	Textbook Page(s)
(10) (G) utilize estimating guide procedure pages	824–825, 830–845
(10) (H) estimate labor time for operations	841–842
(10) (I) select appropriate labor rates for each operation such as structural, non-structural, mechanical, and refinish	824–826, 841–842
(10) (J) select and price replacement parts such as original equipment manufacturer (OEM), alternative/optional OEM, aftermarket, recycled/used, remanufactured, rebuilt, and reconditioned parts	826–828, 839–845
(10) (K) determine labor time, prices, charges, allowances, or fees for non-included operations and miscellaneous items	819–823, 830–845
(10) (L) determine additional material and charges such as environmental, administrative, shop, and disposal fees	819–823, 827–828, 830–845
(10) (M) determine refinishing material and charges	737–745, 819–823, 827–828, 840–841
(10) (N) review computer-assisted and manually written estimates and verify that the information is correct	67–76, 819–845
(10) (O) identify labor time and material charges for restoring corrosion protection	819–822, 826–828, 838–839, 842–845
(10) (P) determine the approximate vehicle retail value compared to the repair cost	67–76, 819–823, 825–826