

# DIESEL TECHNOLOGY

## Case IH

Dealer and Student Information



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Diesel Technology - Case IH is a two-year program leading to an Associate of Applied Science Degree. It is sponsored by the North Dakota Case IH participating dealers and is operated by North Dakota State College of Science in Wahpeton, North Dakota.

## **NDSCS Program Coordinator/Instructor**

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Diesel Technology – Case IH

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*The material in this packet is intended solely for information purposes. The North Dakota State College of Science reserves the right to make changes in curricula, rules and fees whenever such changes are deemed necessary. The announcements in this material are subject to change without notice and may not be regarded as binding obligations on the institution or the state of North Dakota.*

# PARTICIPANT RESPONSIBILITIES

The Diesel Technology – Case IH Program is a partnership between the North Dakota State College of Science, participating North Dakota Case IH dealerships and participating students. Each has the following responsibilities in this partnership:

## NORTH DAKOTA STATE COLLEGE OF SCIENCE

- Maintain a current curriculum approved by participating dealers.
- Provide classroom and laboratory facilities.
- Provide teacher-coordinator and instructors; the teacher-coordinator acts as a liaison between NDSCS and Case IH dealer representatives.
- Provide equipment and tools.
- Promote, advertise and recruit qualified students.
- Test, interview and screen students.
- Assist dealers with student selection.
- Maintain all student records.
- Provide academic, financial aid, and counseling services and advisement.
- Visit students during internships to assure attainment of work experience competencies.
- Furnish program information to dealers, students and the general public when requested.
- Provide an Associate of Applied Science Degree in Diesel Technology – Case IH.

## CASE IH DEALERSHIP

- Interview and select a student to sponsor.
- Appoint an in-dealership coordinator or supervisor to work with NDSCS's teacher-coordinator in planning and monitoring the internship.
- Pay trainee's wages, commensurate with experience, during periods of internships.
- Provide the sponsored student with uniforms in a manner consistent with other dealership employees. Students will wear uniforms (shirt and pants) at both school and work.
- Provide work experience that will increase the students' skill level.

## STUDENT

- Demonstrate high school graduate or equivalent.
- Apply for admission to NDSCS.
- Obtain and maintain a North Dakota Case IH dealership sponsor.
- Complete entrance tests (ACT and DAT) and personal interview as required by the program coordinator.
- Maintain NDSCS academic standards and adhere to academic policies.
- Wear Case IH uniforms and safety glasses while on campus and during internship at the sponsoring dealership.
- Participate in all learning activities and experiences at the scheduled times.
- Provide the sponsoring dealership with responsible and productive employment.
- Pay for program costs - tuition, fees, books and tools.





# INTRODUCTION

The Diesel Technology – Case IH program is an Associate of Applied Science degree (A.A.S.) that is designed to develop technically competent, professional service technicians.

Students receive state-of-the-art technical training on Case IH agricultural equipment and related products through a combination of classroom instruction, hands-on laboratory instruction, and cooperative educational work experience at a participating Case IH dealership.

The Diesel Technology – Case IH program takes five semesters or approximately 20 months to complete. The five semesters are divided into nine terms, each approximately eight weeks in length. Students complete the 1st, 2nd, 3rd, 5th, 7th, 8th and 9th terms on campus. They complete the 4th and 6th terms at a sponsoring Case IH dealership.

Classroom and laboratory instruction at NDSCS covers the basics of each subject plus the latest developments in Case IH equipment. Work experience at the dealership is structured to relate to the most recent classroom subjects covered at NDSCS and includes projects to improve the student's skill level.

Students are required to obtain a sponsor from an authorized Case IH dealership. Students can request assistance in locating a sponsoring dealer, and dealers can request assistance in locating a student to sponsor.

Dealers are responsible for providing students with employment and challenging repair projects during the work experience periods. Students are responsible for tuition, fees, textbook and tool costs.

# DIESEL TECHNOLOGY – CASE IH PROGRAM

(24 months) (AAS Degree)

## CURRICULA (FIRST YEAR)

### FALL SEMESTER

**(1st Term) 1st 8 weeks mid Aug - mid Oct**

Course	Description	AAS Credits
DTEC 164	Introduction to Mobile Hydraulics	4
FYE 101	Science of Success	1
DTEC 109	Air Conditioning for Diesel Technology	2

**(2nd Term) 2nd 8 weeks mid Oct - mid Dec**

DTEC 115	Introduction to Light and Medium Duty Engines	4
MATH 120	Basic Mathematics I	2
CIH 106	Case IH Shop Service Management	2
HPER 210	First Aid and CPR	2

### SPRING SEMESTER

**(3rd Term) 3rd 8 weeks mid Jan - mid March**

DTEC 125	Intro to Heavy Duty Drive Systems	4
ENGL 105	Technical Communications	3
DTEC 155	Electricity for Diesel Technology	4

**(4th Term) 4th 8 weeks mid March - mid May**

CIH 110	Case IH Internship	4
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*Class schedule may change without notice.*

## CURRICULA (SECOND YEAR)

### SUMMER SEMESTER

**(5th Term) June - July**

CIH 225	Case IH Powertrains	4
CIH 216	Case IH Equipment Operation and Adjustment	4

### FALL SEMESTER

**(6th Term) 1st 8 weeks mid Aug - mid Oct**

CIH 210	Case IH Internship II	4
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**(7th Term) 2nd 8 weeks mid Oct - mid Dec**

PSYC 100	Human Relations in Organizations	2
MATH 123	Basic Mathematics II	2
CIH 215	Case IH Engine Rebuild	6
CIS 101	Computer Literacy	2

### SPRING SEMESTER

**(8th Term) 3rd 8 weeks mid Jan - mid March**

ENGL 110	College Composition I	3
MFGT 110	Industrial Shop Practices	2
CIH 265	Case IH Hydraulic Systems Diagnostics	5

**(9th Term) 4th 8 weeks mid March - Graduation**

ENGL 110	College Composition I	
MATH 125	Basic Mathematics III	2
CIH 255	Case IH Electrical/Electronics	5
CIH 260	Case IH AFS (Advanced Farming Systems)	3

# COURSE DESCRIPTIONS

## **CIH 106 Case IH Shop Service Management (2)**

This course covers operational policies followed by the dealership service department. Included will be discussion on shop service management, publications, tech manuals, ASIST (Technical Information Reference Tool) and eTIM (Electronic Technical Information Manual).

## **CIH 110 Case IH Internship I (4)**

The student will receive on-the-job experience at a Case IH dealership. This will consist of performing basic repair procedures in the service department. This internship will occur the fourth 8-weeks of the first year. (S)

## **CIH 210 Case IH Internship II (4)**

The student will receive on-the-job experience at a Case IH dealership. This will consist of performing basic repair procedures in the service department. This internship will occur the first 8-weeks of the second year. (F)

## **CIH 215 Case IH Engine Rebuild (6)**

A theory and lab course covering Case IH engine operating principles, cylinder and piston service, valve service, crankshaft and bearing service, lubrication systems, rebuilding procedures, measurement fundamentals and basic engine troubleshooting. Prerequisite: DTEC 115. (F)

## **CIH 216 Case IH Equipment Operation and Adjustments (4)**

This course will cover the operation, adjustments and repair of Case IH harvesting and planting equipment. Equipment inspections and calibration is included in this course. Students may operate and make field adjustments to this equipment for optimum performance, conditions permitting. (Su)

## **CIH 225 Case IH Power Trains (4)**

A lab/lecture course covering the power train systems used in Case IH equipment. Mechanical shift, power shift and CVT transmissions will be covered in this course. Students will disassemble, reassemble, adjust and test these components found on Case IH equipment. Prerequisite: DTEC 125. (Su)

## **CIH 255 Case IH Electrical/Electronics**

**Diagnostics (5)** This course involves the understanding of electrical sensors, actuators, and computer operation which is applied to Case IH equipment. Techniques of circuit diagnostics will be demonstrated and practiced using the electrical diagnostic manual, DVOM, test light, and special manufactures tools. Electrical work will involve the Case IH equipment which utilizes electronics to control mechanical operation. The student will perform hands-on testing, computer diagnostics, and calibration of various Case IH components and equipment. Prerequisite: DTEC 155.

## **CIH 260 Case IH Advanced Farming Systems (3)**

A lab/lecture course designed to introduce the student to the Case IH Advanced Farming Systems (AFS). Basic GPS equipment guidance systems, operation and diagnostics will be utilized. Types of GPS signals and their applications currently used by Case IH Accuguide systems will be covered. AFS display setup and applications used on current Case IH equipment will be performed.

## **CIH 265 Case IH Hydraulics Systems (5)**

A lab/lecture course covering the diagnostics, service and repair of the hydraulic functions on Case IH agricultural and mobile equipment. Open-center, closed-center and load sensing systems are covered as well as steering, hydrostatic drives and hydraulic functions of Case IH equipment. Prerequisite: DTEC 164.

## **DTEC 109 Air Conditioning for Diesel Technology**

A lecture, discussion and lab-type course covering the design and principles of operations of various air conditioning systems, including agriculture, construction and trucking equipment. Work in lab consists of leak detecting, evacuation, reclaiming, charging, component comprehension, electrical systems and troubleshooting for various units. (F, S)

## **DTEC 115 Introduction to Light and Medium Duty Engines (4)**

A theory and lab course covering rebuilding of heavy duty gas and light- and medium-duty diesel engines. Students will troubleshoot, disassemble, rebuild and assemble an engine during this class. Learning modules include: measurement fundamentals, basic engine operating principals, cylinder and piston service, cylinder head rebuilding and valve reconditioning, crankshaft and bearing service, and lubrication and cooling systems. Engines designed for the use of alternative fuels such as LPG and CNG are also covered. This class is a prerequisite for DTEC 215, CIH 215 and JDAT 215.

## **DTEC 125 Introduction to Heavy Duty Drive Systems (4)**

A lecture and lab type course which provides the student with theory and hands-on operation of shop safety, operation and repair of bearings-seals, heavy duty steer axles, drive axles, medium and heavy duty truck suspension and wheel end assemblies. This is an 8-week course and an 80-hour class. This class is a prerequisite for DTEC 225, CIH, 225 and KMTS 225. (F, S)

## **DTEC 155 Electricity for Diesel Technology (4)**

An introductory lab/theory class in electrical fundamentals. A practical approach to the study of electricity including Ohm's Law, power, series and parallel circuits, direct and alternating current, with strong emphasis on diagrams and troubleshooting. This class is designed for technicians in the Diesel Technology field. This class is a prerequisite for DTEC 255, CIH 255, and KMTS 255. (F, S)

## **DTEC 164 Introduction to Mobile Hydraulics (4)**

This course is a study of hydraulic system fundamentals and various components used in a typical mobile hydraulic system. Component disassembly and reassembly will take place to aid in the understanding of component and system operation. Various components will be tested on a test bench to help the student understand how the components contribute to the overall operation of the system and will be used to evaluate the students' performance. Experiments will be performed on lab equipment to aid in the understanding of mobile hydraulic principles. This class is a prerequisite for DTEC 265, CIH 265, and KMTS 265.



### **MFGT 110 Industrial Shop Practices (2)**

An introduction to the procedures and practices used to develop fundamental industrial shop skills. Students enrolled in this class will learn and apply a variety of practical skills used to aid in any entry level industrial mechanical service occupation. The topics covered in this course are: general shop safety; MIG welding set-up and operation as well as welding simulation; Oxy-Fuel torch set-up and operation; basic measuring methods using tape measures, rulers, calipers, and micrometers; identification of SAE and ISO metric measuring systems; proper use and identification of basic shop tools; identification of twist drills and sharpening; identification and use of hand taps; fastener type and grade identification; Helicoil insert use; bolt extraction; properly demonstrate the use of mechanical type torque wrenches; properly demonstrate the use of electronic type torque wrenches; properly demonstrate the ability to torque according to industry standards.

### **ENGL 105 Technical Communications (3)**

This course concentrates on business correspondence, informal report writing, technical communication, job preparation, and oral presentation. Prerequisite: Placement test. (F, S, Su-Online)

### **ENGL 110 College Composition I (3)**

An introduction to college-level writing as a process of drafting, revising and editing. This course emphasizes critical reading, writing, thinking and research skills as students write for a variety of audiences and purposes. Students will receive guided instruction in the writing process as they begin writing based on personal experiences. An introduction to proper crediting of source material and research will occur toward the end of the course. Prerequisite: Placement test. (F, S, Su, O) ND:ENGL

### **MATH 120 Basic Mathematics I (2)**

A review of whole numbers, fractions and decimal numbers in conjunction with the fundamental application of ratios, rates, unit rates, proportions and percents in solving everyday problems. The application of business and consumer mathematics such as simple and compound interest and purchasing. (F, S)

### **MATH 123 Basic Mathematics II (2)**

This course introduces statistical data reading and calculating. Problem solving applications involving U.S. and Metric measurements. Application of direct measurement, perimeter, area, and volumes and fundamental geometry. (F, S)

### **MATH 125 Basic Mathematics III (2)**

Basic concepts and features of beginning algebra with emphasis on critical thinking and problem solving. Topics include properties of real and rational numbers, arithmetic operations of numbers and expressions, translating verbal expressions to variable expressions, formula manipulations and application of word problems. (F, S)

### **CIS 101 Computer Literacy (2)**

This course is designed to provide non-Computer Science majors with an introductory-level course in computer usage that prepares them for contemporary work environments. It is a hands-on lab-based course intended to introduce the student to the Windows operating system, Word, Excel and PowerPoint. (Credit awarded for CIS 101 or CSC1 116, not both.) (F, S, Su, O) ND:COMPSC

### **PSYC 100 Human Relations in Organizations (2)**

An examination of human relations in business and industry with emphasis on how people can work effectively in groups to satisfy both organizational and personal goals. Motivation, emotional and mental health, communication techniques and coping with stress are explored. Activities are used to encourage the application of concepts to enhance personal growth and insight and to increase social skills. (F, S, Su-as needed, O) ND:SS ND:SS

### **FYE 101 Science of Success (1)**

This is a practical one-credit course that provides the tools and skills necessary to get a strong start with the transition for new students at NDSCS. This course will introduce students to campus resources, policies and procedures and cover topics such as time management, study skills, goal setting, wellness, financial literacy and professional development. (F, S, O)

### **HPER 210 First Aid and CPR (2)**

Provide students with the knowledge and skills necessary to respond to an emergency; to call for help, to help keep someone alive, to reduce pain, and to minimize the consequences of injury or sudden illness until professional medical help arrives. This course is outlined by the American Heart Association and will follow those guidelines. Certification cards are given upon request and only after successfully completing the course. The student must score at or above the 84th percentile on all written exams for certification. (F, S, O)

# STUDENT ADMISSION AND SELECTION PROCEDURE

Students enroll in the Diesel Technology – Case IH program at the beginning of fall semester. Students are accepted into the program upon completion of admission into NDSCS. Students should do the following:

Apply for admission to NDSCS through the Enrollment Services office. Enrollment Services will not accept faxed applications for any program.

- Submit high school transcripts or GED to Enrollment Services.
- Complete Differential Aptitude Test (DAT) with a minimum score of 70% and ACT minimum test score of 15 in reading and English.
- Visit NDSCS and complete orientation (testing, academic advising and scheduling, and registration).
- Secure approval from a participating dealer.

## ADMISSIONS

Students should contact the NDSCS Enrollment Services office (701-671-2173) to receive information on the college, financial aid and housing. Students should complete the applications and return them to NDSCS promptly. Assessment tests will be required prior to admission into the Diesel Technology – Case IH program.

## HIGH SCHOOL OR GED TRANSCRIPTS

Applicants must demonstrate completion of high school or GED equivalency. Students should contact their high school guidance office and request that their transcript be submitted to NDSCS Enrollment Services.

## ORIENTATION

All freshmen must complete an orientation. Once a student is admitted to NDSCS, Enrollment Services will schedule orientation for the student. Orientation includes a tour of the NDSCS campus, financial aid counseling, scheduling (academic advising) and registration.

## SPONSOR APPROVAL

Applicants must complete an interview with and secure approval of a sponsor. The applicant is responsible for obtaining a sponsor. Applicants should take the Dealer Approval Form to a potential sponsor. Complete the approval form and return it to Enrollment Services if it is determined that the dealer will grant sponsorship. If the dealer decides not to grant sponsorship, then the student should contact the NDSCS coordinator for assistance in securing a sponsor.

## SCHOLARSHIP AVAILABILITY

A general scholarship application must be completed to be eligible for scholarships.

# CONTACT INFORMATION

Dealers and students should direct all inquiries to the following North Dakota State College of Science Primary contacts.

### Mike Redding

Program Coordinator  
 Diesel Technology – Case IH  
 701-671-2226 or  
 800-342-4325 ext. 3-2226  
 Michael.Redding@ndscs.edu

### Terry Marohl

Department Chair – Diesel Technology  
 701-671-2308  
 Terry.Marohl@ndscs.edu

### Jenny Schmitt

Program Assistant – Diesel Technology  
 701-671-2330  
 Jenny.Schmitt@ndscs.edu

# ELIGIBLE DEALER LOCATIONS

Case IH agricultural equipment dealers located in North Dakota are eligible to sponsor students at NDSCS and anywhere in the U.S. if spots are open.

Students should contact a local Case IH dealer to see if the dealer is interested in sponsoring a student. They can contact the NDSCS coordinator for a list of approved Case IH dealers.

## ■ Border Plains Equipment

Glasgow, Mont.  
Stanley, N.D.  
Williston, N.D.

## ■ Erickson Implement, Inc.

Carrington, N.D.

## ■ Hanson's Auto and Implement Inc.

Cavalier, N.D.  
Grafton, N.D.

## ■ High Plains Equipment

Devils Lake, N.D.  
Harvey, N.D.

## ■ Northern Equipment, Inc.

Rugby, N.D.

## ■ Northern Plains Equipment Co.

Mandan, N.D.  
Minot, N.D.

## ■ Titan Machinery Inc.

With locations in North Dakota,  
South Dakota, Minnesota, Nebraska  
and Iowa

## ■ Uglen-Ness Company

Northwood, N.D.

## ■ West Plains, Inc.

Beach, N.D.  
Bowman, N.D.  
Dickinson, N.D.  
Hettinger, N.D.

# FINDING A SPONSOR

**Note:** You may speak to any participating dealership at any time about the Diesel Technology – Case IH Program. You are accepted into the program only after official acceptance occurs, after all assessments, applications and dealer sponsorship forms have been approved by the North Dakota State College of Science.

## KEY POINTS TO REMEMBER:

- Case IH dealerships are independent businesses.
- They are not employees of Case IH.
- When looking for a sponsor, you are looking for a CAREER – act and dress accordingly.
- North Dakota State College of Science and the Diesel Technology – Case IH Coordinator will provide assistance and guidance and identify interested dealerships.
- We do not assign you a dealership.
- As a Diesel Technology – Case IH student you will be an employee and a student, although the two should never conflict.
- Some dealerships may choose not to participate.
- The dealership may choose to formally interview you as a candidate for the Diesel Technology – Case IH Program.
- Be prepared
  - Be neat and clean in appearance.
  - Be confident of your goals and skills.
  - Complete your part of the application as neatly as possible before the interview.
- Your first priority should be convincing the dealer that you will make a good employee.
- You may speak to the dealer (owner), general manager or service manager.
- If you are not sure whom to see, ask for the dealer first, then the service manager.

If you are sure that you want to be in the Diesel Technology – Case IH Program, be confident and get busy right now. Don't be discouraged if your first attempt doesn't land you a sponsor!



# SPONSOR APPROVAL OF STUDENT

## DIRECTIONS TO THE STUDENT

Fill in your name and address in the lines below. Then, take this Sponsor Approval Form to the Case IH dealer for approval of the sponsorship.

Student's Name \_\_\_\_\_

Street Address \_\_\_\_\_

City, State, Zip \_\_\_\_\_

Phone \_\_\_\_\_

## DIRECTIONS TO THE DEALER

\_\_\_\_\_ I agree to provide sponsorship for the above student in the Diesel Technology – Case IH Program at NDSCS.

Dealership \_\_\_\_\_

Street Address \_\_\_\_\_

City, State, Zip \_\_\_\_\_

Phone \_\_\_\_\_

Authorizing Representative \_\_\_\_\_

Date \_\_\_\_\_

# STUDENT RELEASE OF INFORMATION FORM

I hereby grant permission to North Dakota State College of Science to share my high school transcripts, pre-admission test results, interview data, and college grades and progress reports with the sponsoring Case IH dealership.

Student Signature \_\_\_\_\_

Street Address \_\_\_\_\_

City, State, Zip \_\_\_\_\_

Date \_\_\_\_\_

Return this completed form to:

NDSCS Enrollment Services

800 Sixth St. N.

Wahpeton, ND 58076-0002

# CORRESPONDENCE

All correspondence should be directed to the following address:

Diesel Technology – Case IH

Enrollment Services

North Dakota State College of Science

800 Sixth St. N.

Wahpeton, ND 58076

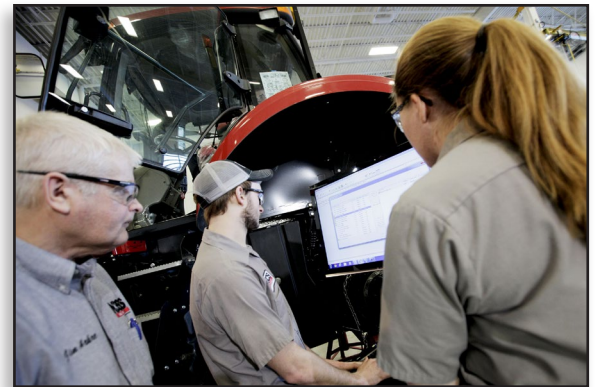




# COLLEGE EXPENSES

Contact the Director of Enrollment Services for tuition costs. Out-of-state students in a partnership program will pay the in-state tuition rate. The exception is Minnesota students who pay the agreed-to reciprocity rate.

**NOTE:** All tuition, fees, room and board costs are tentative and are subject to change. Personal costs are rough estimates of personal spending. Contact the NDSCS Enrollment Services office for a current information sheet.



# STUDENT TOOL LIST

Students are responsible for purchasing or providing their own tools. Below is a list of required tools for the program. These tools can be purchased from NDSCS at a substantial discount through the Bookstore.

QTY	DESCRIPTION	CATALOG #	VENDOR	QTY	DESCRIPTION	CATALOG #	VENDOR
1	Classic 7 Drawer, 40", Red	KRA4107FPBO	SNAP-ON	1	Dial Caliper 0"-6" Range	PMF147A	SNAP-ON
1	3/8" Dr., Adaptor Set, Comb. Drive, 6 pc.	1206GS	SNAP-ON	1	Bronze Drift Punch 13/16" pt., 8"	PPB826A	SNAP-ON
1	1/4" Dr., General Service, Fractional/Metric, 44 pc., 6 pt.	144TMPB	SNAP-ON	1	Race Punch, Oval Bearing 20"	PPC20LB	SNAP-ON
1	3/8" Dr., Torx®, Standard, T27 to T55 Plus GM-Style T47 (7 pcs.)	207EFTXY	SNAP-ON	1	Punch & Chisel Set, 11 pc.	PPC710BK	SNAP-ON
1	Set, Socket, Deep, 12 pt. 1 1/4" to 7/8"	211SFY	SNAP-ON	1	Wire Stripper, Cutter, Crimper/Bolt Cutter	PWC9	SNAP-ON
1	3/8" Dr., Metric Socket Set, Shallow, 12 pc., 12 pt.	212FMY	SNAP-ON	1	Socket, Spark Plug, Shallow, 13/16", 6 pt.	S9704KA	SNAP-ON
1	Set, General Service, 12 pt. (18 pc.) (Tools Only)	218AFP	SNAP-ON	1	Socket, Spark Plug, Shallow, 5/8", 6 pt.	S9706KA	SNAP-ON
1	1/2" Dr., Metric Socket Set, Shallow, 12 pt.	313SWMYA	SNAP-ON	1	Screwdriver Flat Tip, Pocket, Orange, .025" Tip, 4-3/4"	SDD224O	SNAP-ON
1	1/2" Dr., General Service Set, 17 pc., 6 pt.	317MSPC	SNAP-ON	1	Instinct AWL	SG7ASABR	SNAP-ON
1	1/4 NPT F Coupler Auto Type	AHC24D	SNAP-ON	1	Mini Pick Set, Plastic Handle, Black, 4 pc.	SGASA204A	SNAP-ON
4	Air Line Adaptor, Male	AHC24MD	SNAP-ON	1	8 pc. Screwdriver Set, Red, Soft	SGDX80BR	SNAP-ON
1	Hex Wrench Set, Silver, L-Shape, 15 pc.	AW1015DK	SNAP-ON	1	1/4" Driver, Long Shank 5-3/4"	SGT4BR	SNAP-ON
1	Hex Metric Wrench Set, Gold, L-Shape, 14 pc.	AWM140DK	SNAP-ON	1	Striking Prybar 4 pc. Set Orange	SPBS704O	SNAP-ON
1	Pliers, Adjustable Joint, Straight Serrated Jaws 12-3/4"	AWP120	SNAP-ON	1	Snap Ring Pliers, Angle Jaws 8-7/8" Long	SRP2A	SNAP-ON
1	Curved Locking Jaw Pliers	BLP10	SNAP-ON	1	Snap Ring Pliers, Angle Jaws 14" Long	SRP4	SNAP-ON
1	Hammer, Ball Peen 16 oz. Fiberglass	BPN16B	SNAP-ON	1	Pliers, Retaining Ring 7-7/16"	SRPC7000	SNAP-ON
1	Carbon Scraper, Rigid, Black, 14"	CSA14C	SNAP-ON	1	Metric, Shallow, 10mm, 12 pt.	SWM101A	SNAP-ON
1	Feeler Gauge, Bent Blade, 25 Blades	FB300A	SNAP-ON	1	Metric, Shallow, 11mm, 12 pt.	SWM111A	SNAP-ON
1	Feeler Gauge, U.S./Metric, 25 Blades	FB325A	SNAP-ON	1	Metric, Shallow, 25mm, 12 pt.	SWM251	SNAP-ON
1	Air Chuck, Dual Foot, 6-1/2"	GA356A	SNAP-ON	1	Metric, Shallow, 26mm, 12 pt.	SWM261	SNAP-ON
1	Set Dial Test Indicator, Long Range	GA3645	SNAP-ON	1	Metric, Shallow, 27mm, 12 pt.	SWM271	SNAP-ON
1	Black Frame Safety Glasses	GLASS31BK	SNAP-ON	1	Torque Wrench, Basic 3/8" Dr. 300 lb.	TE25A	SNAP-ON
1	Hammer, Dead Blow 48 oz.	HBFE48	SNAP-ON	1	Torque Wrench, Adj. Click Type, U.S., Flex-Ratchet, 20-100 ft./lb., 3/8" Dr.	TQFR100C	SNAP-ON
1	B.P. Hammer, Hand Drilling, Fiberglass Handle 4 lb.	HD4SG	SNAP-ON	1	Torque Wrench, Adj. Click Type, U.S., Flex-Ratchet, 40-250 ft./lb., 1/2" Dr.	TQFR250E	SNAP-ON
1	Tapered Rubber Tip Blow Gun, 4-1/2" Long	JT13A	SNAP-ON	1	Socket, Shallow 1 1/4" 12-PT	TW401	SNAP-ON
1	Blue Point 0-1" Micrometer	MICB1B	SNAP-ON	1	Brush, Wire, Brass, Miniature, 2"	WBBS2	SNAP-ON
1	5/16" Comb. Wrench, Std. Length, 12 pt.	OEX10B	SNAP-ON	1	Ear Protector	YA160A	SNAP-ON
1	Comb. Wrench Set, 14 pc., 12 pt.	OEX714K	SNAP-ON	1	Soapstone Marker	YA247-2	SNAP-ON
1	Metric Wrench, Comb., Short, 6mm, 12 pt.	OEXM6B	SNAP-ON	1	Welding Gloves	YA427B	SNAP-ON
1	Metric Wrench Set, Comb., 10 pc., 12 pt.	OEXM710B	SNAP-ON	1	Lifting Brackets	7100U1	ACME
1	Metric Wrench, Comb., Short, 7mm, 12 pt.	OEXM7B	SNAP-ON	1	Measuring Tape, U.S./Metric,	33-215	ACME
1	Metric Wrench, Comb., Short, 8mm, 12 pt.	OEXM8B	SNAP-ON	1	Fluke Multimeter 87-V	2074974F	ACME
1	Metric Wrench, Comb., Short, 9mm, 12 pt.	OEXM9B	SNAP-ON	1	4' Endless Sling	EN1801TX4	ACME
1	Prybar Set (4 pcs.)	PBS704	SNAP-ON	1	Hole Gauge .300-.400"	CEN4313	ACME
1	Pen Tire Pressure Gauge, 10 to 150 PSI	PGPL150	SNAP-ON	1	Deutsch Removal Tool Set	588U	ACME
1	Putty Knife Scraper, Red, 1-1/4"	PK53A	SNAP-ON				
1	3 pc. Pliers Set	PL300CF	SNAP-ON				



NORTH DAKOTA STATE COLLEGE OF SCIENCE

[NDSCS.EDU/CASE-IH](http://NDSCS.EDU/CASE-IH)