Police Officers Crash Report Manual
INTRODUCTION
Section 3751 of Title 75, Pennsylvania’s Consolidated Statutes (Vehicle Code) requires police agencies to investigate, upon notification, all crashes involving death, injury, and/or damage to any one vehicle to such an extent that it cannot be driven from the scene without further damage and therefore requires towing. Furthermore, the investigating agency must report these crashes within 15 days to the Department of Transportation on a form designed and supplied by the Department (Section 3752(b)). That form is the Commonwealth of Pennsylvania Police Crash Report (PCR) Form which now is defined by a data standard for electronic submission. This data standard shall change in accordance with the needs of applicable Federal and State agencies and with legislative changes regarding collection of crash data.

Crashes are, too often, a failure in the Commonwealth’s Transportation System. The primary objective when investigating crashes is to obtain information that can be used to develop crash prevention and crash reduction programs. The PCR form has been designed to assist officers in doing just that. It is the primary source document for Pennsylvania’s Crash Reporting System. Every attempt must be made to obtain factual information for all items listed on the report form. It has been designed to be easily completed and to assist officers in gathering the information consistent with their responsibilities at the scene of a crash.

Compliance with instructions in this manual will help assure that reports are filled out completely, accurately, and in a uniform manner.

DEFINITIONS AND TERMINOLOGY
From time to time, police officers will call PennDOT with questions regarding a particular crash. Generally, the questions result from an unusual situation in the crash. The following is a partial list of terms and definitions that may help officers determine the answers to those questions. However, if you are still unsure, please give us a call. The number is (717) 787-2855.

CRASH
A crash is a sequence of events that result in an un-stabilized situation which includes at least one incident of personal injury or vehicular damage that is not a direct result of a cataclysm or deliberate intent.

UNSTABILIZED CRASH SITUATIONS
An unstabilized situation is a set of events not under human control. It originates when control is lost and terminates when control is regained or when all persons and property are at rest.

Examples of unstabilized situations:
- Unit #1 strikes Unit #2. After this collision, Unit #1 crosses the median still out of control and strikes Unit #3. This will be reported as a three (3) vehicle crash because Operator #1 had not regained control of his unit before striking Unit #3.

- If part of a load (or chunk of ice) falls from a vehicle, and in the process of falling strikes another vehicle, then the resultant crash would be considered a two (2) vehicle crash.

Examples where situations stabilize and then are lost:
- Unit #1 strikes Unit #2. After this collision, Unit #1 comes to rest in the opposing lane of travel. Unit #3 then comes along and strikes Unit #1. This will be reported as two (2) separate crashes—the first as a two (2) vehicle crash and the second as a two (2) vehicle crash with the previously wrecked unit having a value of “Disabled From Previous Crash” in the Type Unit field because the first situation had become stable when the first two units came to rest.

- If as a result of a crash, part of a load falls to the ground and moments later the load is struck by a second vehicle, then the resultant second crash would involve a single vehicle as the situation had stabilized after the fall.
MOTOR VEHICLE IN TRANSPORT
A motor vehicle in transport is any motorized vehicle moving or stopped during its course of transit (not parked). This includes driverless vehicles in motion. Motorized pedestrian mobility devices such as wheelchairs and mobility scooters are not considered to be motor vehicles. There must be at least one motor vehicle in transport involved in every crash reported to PennDOT.

REPORTABLE CRASH
The incident must occur on a highway or trafficway that is open to the public by right or custom and involve at least one motor vehicle in transport. This can be if control is lost on the roadway or if any of the harmful events occur on the roadway.

The definition for a reportable crash can be found in Section 3746(a) of Title 75, Pennsylvania’s Consolidated Statutes. It states a crash is reportable if it involves:

- Injury to or death of any person; and/or
- Damage to any vehicle to the extent that it cannot be driven under its own power in its customary manner without further damage or hazard to the vehicle, other traffic elements, or the roadway, and therefore requires towing.
  - See the Appendix for reportability examples.
- Crashes involving a Snowmobile or ATV should be reported by the driver using form 8170-FM-FR0061 Department of Conservation and Natural Resources, Bureau of Forestry, PO Box 8552, Harrisburg, PA 17105.

  It is a violation of the Snowmobile/ATV Law not to report an accident anywhere in Pennsylvania involving death, injury or damage in excess of $100.
- School Bus Crashes must be reported by the driver/bus service to the PennDOT School Bus Unit using form DL-739A.
- Damage to PennDOT maintained property such as guide rails and signage should always be reported to the PennDOT District Office. Please also mark the “PennDOT Property Damage” box on the form.

NON-REPORTABLE CRASH
A non-reportable crash involves a crash with no injury or death of any person, in which there is no towing due to the damage to the vehicle at the time of the crash. Furthermore, if the incident occurred on private property or was a result of deliberate intent or cataclysm, the crash is non-reportable. A non-reportable crash does not require a Police Crash Report to be submitted.

CATACLYSM
A cataclysm is a landslide, cyclone, earthquake, flash flood, hurricane, lightning, tornado, etc. Crashes that result from a cataclysm are not reportable. Examples:

- Motor vehicles driven into water when a bridge is washed out during a flood.
- Motor vehicles driven into or struck by falling materials during a landslide.
- Motor vehicles struck by trees, tree limbs or other large debris during a major storm.
DELIBERATE INTENT
The classification given to the cause of an event which occurs when a person acts deliberately to cause the event or deliberately refrains from prudent acts, which would prevent occurrence of the event. This includes suicide, self-inflicted injury, homicide, injury or damage purposely inflicted. Crashes that result from deliberate intent are not reportable.

Examples of deliberate intent include:
- Passenger deliberately exiting a moving vehicle
- Bystander deliberately throwing objects at or firing into a moving vehicle
- Driver deliberately driving into another vehicle, pedestrian, or fixed object, or driving off the roadway with blatant disregard for the safety of the action.
- Passenger interfering with the driver such as grabbing the steering wheel

LEGAL INTERVENTION
A category of deliberate intent which involves an action by a law-enforcing agent or authorized official. Crashes that result from legal intervention are not reportable.

Examples:
- If a lawbreaker crashes either intentionally or unintentionally into a roadblock set up by police to stop them, then the crash is considered a result of legal intervention.
- If a police car is intentionally driven into another vehicle, the crash is considered to result from legal intervention.
- If a vehicle being pursued by the police loses control of his vehicle and crashes into another, the crash is not considered to be a result of legal intervention because neither the officer nor the pursuant intend this crash.

HARMFUL EVENT
A harmful event is an occurrence that actually causes damage or injury. It must be observable like hitting a tree or overturning. The event itself causes the damage or injury. There can be up to four harmful events per unit per crash. If there are more for a particular vehicle, use the first four harmful events in event sequence (how it happened) and ignore the remaining events. If the most harmful event is not one of the first four, make it the fourth harmful event and ignore the original fourth harmful event in sequence.

The investigating officer will determine the most damaging or injury producing event for each unit based upon his/her investigation.

NON-COLLISION CRASH
A non-collision crash is any crash that does not involve contact between units or a motor vehicle and a fixed object. A Police Crash Report Form should be prepared if the resultant incident meets the definition of a reportable crash.

Examples:
- Occupant falling from exterior of vehicle (motorcycle, pick-up bed, etc.)
- Vehicle roll-over (not preceded by a collision)
- Breakage of any part of the vehicle, resulting in injury or further property damage
- Fire starting in the vehicle or mechanical failure while in motion (not parked)
- Occupant hit by an object in, or thrown against some part of the vehicle
- Object falling on the vehicle (not from another unit)
AUTOCYCLE
A new vehicle category has been established under Pennsylvania law and must be tracked as a separate vehicle type in the crash reporting system. Title 75 § 102 defines an autocycle as “A three-wheeled motorcycle that has a steering wheel and seating that does not require the operator to straddle or sit astride.”

PHANTOM UNIT
A phantom unit has a contributing factor in the crash but does not have any harmful events. This can include pedestrians. There should be evidence or witness statements to corroborate a phantom unit.

COMMERCIAL VEHICLE/LICENSE TERMS
Bus: A motor vehicle designed to transport 16 or more passengers, including the driver, and used for the transportation of persons for compensation.

School Bus: A bus designed and used to carry 11 or more passengers, including the driver, and is used for the transportation of preprimary, primary, or secondary school students, personnel or chaperones to such schools or school-related activities from home, or from such schools or school-related activities to home.

Commercial Driver License (CDL): A driver’s license authorizing a person 18 years of age or older to drive a class of commercial motor vehicles.

Class A Driver License: Drivers 18 years or older who have demonstrated their qualifications to operate any combination of vehicles with a gross vehicle weight rating (GVWR) of 26,001 pounds or more, provided the GVWR of the vehicle or vehicles being towed is in excess of 10,000 pounds. (Tractor-Trailer Drivers)

Class B Driver License: Persons 18 years or older who have demonstrated their qualifications to operate any single vehicle with a GVWR of 26,001 pounds or more, or any such vehicle towing a vehicle with a GVWR less than 10,000 pounds. (Large Truck or Bus Drivers)

Class C Driver License: Persons 18 years or older who have demonstrated their qualifications to operate any single vehicle with a GVWR of 26,000 or less or any such vehicle towing a vehicle if the gross combination vehicle weight rating is 26,000 pounds or less. (Regular Drivers)

A commercial Class C license is required for drivers transporting some commodities, especially hazardous materials as long as the vehicle is placarded.

Class M Driver License: Persons who have demonstrated their qualifications to operate a motorcycle or motor-driven cycle. (A driver may have a Class M License in combination with a Class A, B or C.). Class M is not a commercial license.
SUBMISSION METHODS

Police agencies may choose to enter crash data directly using PennDOT’s Crash Reporting System website or may submit electronic files using recognized police records management software.

- To submit crash reports using the web site, you must be set up with a user ID and password. Each police agency should have at least one person (crash system administrator) who can set up and maintain accounts on the website.

- If you have software from a recognized vendor (other than TraCS which submits on behalf of the law enforcement agency) and would like to submit crashes electronically, you will need to establish a business account with PennDOT. penndotcrashhelp@pa.gov or (717) 787-2855.

HOW TO COMPLETE VARIOUS UNIT TYPES

This section describes what sections to complete if the crash involves the following. Note, these instructions apply only to the types of units described. Follow normal instructions for all other units.

Legally Parked Vehicle
- Unit Type = “Legally Parked”.
- Leave driver data blank except for driver presence which should be code 02 (no driver).
- Complete the Vehicle Data
- Complete the People Data only if people are actually sitting in the parked vehicle. Do not classify any of them as the “driver.”
- Complete all remaining applicable fields.

Illegally Parked Vehicle
- Unit Type = “Illegally Parked”.
- Complete the Driver data for the driver who last parked the unit. Make sure you put “no driver” (code 02) in driver presence.
- Complete the Vehicle Data.
- Complete the People Data only if people are actually sitting in the parked vehicle. Do not classify any of them as the “driver.”
- Complete all remaining applicable fields.

Pedestrian and Pedestrian Conveyance
- Unit Type will be either “Pedestrian” or “Pedestrian on Skates, in Wheelchair, etc.”
- In the driver/pedestrian data, complete the unit number, first name, middle initial, last name, date of birth, address, zip code, alcohol drug suspected, alcohol test type, alcohol test results, driver or pedestrian physical condition, and primary vehicle code violation. Leave driver license number, driver state, class, driver presence, and owner/driver areas blank.
- Do not enter the Vehicle Data.
- Person Type (People Data) should be entered as “Pedestrian”.
- Complete all of the pedestrian data including Pedestrian Action, Pedestrian Location, Pedestrian Signals, and Pedestrian Clothing
- Complete all remaining applicable fields.
Non-Motorized Vehicle
- Unit Type = “Non – Motorized”. Examples include a bicycle, horse and buggy, horse and rider, etc.
- In Block 11, complete the unit number, first name, middle initial, last name, date of birth, address, zip code, alcohol/drugs suspected, alcohol test type, alcohol test results, driver or pedestrian physical condition, and primary vehicle code violation driver presence, and owner/driver. Leave driver license number, driver state, and class areas blank.
- Complete everything in the Vehicle data except owner name, address, vehicle make, make code, VIN, model year, vehicle model, license plate, Registration State, vehicle towed, insurance, and trailing units.
- Complete People data as usual.
- If bicycle, complete the “Pedalcycle” data, including: Passenger, Head Lights, Helmet, and Rear Reflectors.
- Complete all remaining applicable fields.

Disabled from Previous Crash
This means that the vehicle already needed to be towed from a previous crash that has already occurred. The fact that this vehicle has to be towed cannot be used to justify that the subsequent crash is reportable. If there is no injury or another unit having to be towed, then the crash is non-reportable.
- Unit Type = “Disabled From Previous Crash”.
- Skip the Driver data except mark driver presence as “no driver” (2)
- Complete Vehicle data normally.
- Complete the People Data only if people are actually sitting in the parked vehicle. Do not classify any of them as the “driver.”
- Complete all remaining applicable fields.

Phantom Vehicle
- Unit Type = “Phantom Vehicle.”
- Do not include any of the Driver data since this unit had no harmful events in the crash.
- Do not code any harmful event data since phantom units have not harmful events.
- Complete the Contributing Factor data for the unit.
- Complete all remaining applicable fields.
Trains
(Trolleys are not considered trains).
• Intersection type should normally be a railroad crossing.
• For Intersecting Road, the street name should be the American Association of Railroads (AAR) number for the railroad crossing. The AAR number would appear on the railroad crossing sign, the control box for the flashing signal, or on a structure near the crossing. Alternately, you can obtain that number from the railroad operator (call the 800 number posted at the crossing) or you can call PENNDOT for that information. Examples:

![Figure 1: DOT Inventory Crossing Number](image)

Emergency Notification
(pictures c2002 by Operation Lifesaver, Inc., all rights reserved, used by permission)

• Unit Type = “Train.”
• Skip Driver data.
• For Vehicle data complete the following: Direction of Travel, and Vehicle Type.
• Do not include any people data for the train.
• Complete all remaining applicable fields.
COMPLETING THE POLICE CRASH REPORT FORM

POLICE AGENCY DATA
Case Closed – Is the investigation complete?

Crash Number – electronically generated number used to uniquely identify each crash within a law enforcement agency. Should not be the same as the incident number.

Incident Number – Number assigned to the crash by the police agency (may be alphanumeric).

Police Agency Code – PennDOT supplied code that identifies the police agency that reported the crash.

Patrol Zone – Number assigned by police agency.

Precinct – Designated coverage area for a group of officers.

Dispatch Time – Time of day (0000 - 2359) when the police officer(s) were dispatched to the scene of the crash. (If on-view, use same as arrival time)

Arrival Time – Time of day when the investigating officer arrives on the scene of the crash.

Investigation Date – The date upon which the crash investigation began.

CRASH DATA
County – Numeric code for the county in which the crash occurred. (See Appendix A)

Municipality – Numeric code assigned to the municipality in which the crash occurred.

Crash Time – Actual time of the day (0000 – 2359) at which the crash occurred (unknown is 9999).

No of Units – Total number of units involved in the crash. (Pedestrians, non-motorized units, and phantom units are considered units).

People – Total number of people involved in the crash. People in trains and phantom vehicles should not be counted.

Injured – Indicate the number of people that you know are injured. Do not include those individuals in this count who die as a result of the crash. They should be counted in the “Killed” field. If you do not know a person is injured or not, do not include them in this count.

Notify PennDOT Maintenance – Inform PennDOT of a physical problem with roadway equipment at the crash scene. (For example, damaged guiderail, barrier or signage)

LOCATION TYPE DATA
Intersection Type – Identifies the general roadway configuration at the crash scene. (In the context of crash reporting, intersection type is more defined by the movements of the involved vehicle(s) rather than the point of impact. For example, the actual collision of two vehicles may have occurred 10 feet outside the crosswalks, but if a vehicle was still in the process of turning, then it is an intersection crash.)

- Midblock (Non-intersection) – Crash occurred between intersections and not intersection-related.
- 4-Way Intersection
- "T" Intersection
- "Y" Intersection
- Traffic Circle/Roundabout – This intersection type should not be used for crashes on or after January 1, 2018.
- Multi-Leg Intersection – Intersection that has five or more intersecting roads
- On-Ramp – Ramp merging onto the mainline roadway
- Off-Ramp – Ramp exiting the mainline roadway.
- Crossover – An opening on a divided highway intended for authorized emergency or maintenance vehicles.
- Railroad Crossing.
- “L” Intersection
• Traffic Circle – Intersection in which traffic from multiple roadways travel around a central raised barrier in a counter-clockwise direction in which all traffic entering the intersection yields to approaching traffic. This does not include modern roundabouts installed by PennDOT since 2003.
• Roundabout – A Traffic Circle that conforms to the definition of a modern roundabout.
• Other – an intersection where at least 2 roads meet that does not fit a category above.

Special Location – Please indicate if any apply. Do not leave blank.

PRINCIPAL AND INTERSECTING ROAD DATA

Principal Road – The principal road is the road on which the crash occurred. If the crash occurs at an intersection, the investigator should choose one road as the principal.

Intersecting Road – The intersecting road is one of the other legs of the intersection. Please choose a leg which is a state highway if applicable.

• Route Number – State route number or township route number or blank for borough or city streets – Do not precede a State Route number with an “SR.” Route signing will identify the type of roadway involved.
• Travel Lanes – Number of travel lanes on the road, or on the one side only if the road is divided by one of the following: grass, natural barriers, curbs, concrete barriers, and painted lines if median is more than 4 feet.
• Street Endings - Identifies the type of street ending for the Street Name.
• Orientation - For traffic routes, use the posted direction on that part of the road where the driver lost control. For local roads use the general direction the road is approaching from.

LANDMARKS DATA
Use this option for non-intersection (midblock) crashes if you are not going to use House Number or GPS coordinates.

Landmarks (1 and 2) – the reference point from where (or toward which) to measure the distance. Complete only one of the following for each landmark:

• Intersecting Route Number – The state route number of the landmark road
• Milepost – A Milepost number associated with the principal road (state highway) upon which the crash occurred
• Intersecting Street Name/Street ending – The name of the state route, or municipal road that intersects the principal road on one side of the crash scene. If the midblock location is in a cul-de-sac or has a dead end on one side of the crash location, please use Street Name “DEAD END” and ending “RD”.

Delimiter Type – The crash system can only store one delimiter per landmark, the delimiter type must be specified if you are submitting from crash software.

R – State Route Number
S – Street Name (and ending)
M – Milepost

Distance from Landmark 1 – enter feet or miles from landmark 1 toward landmark 2.

Ramp Use Only – The orientation the street used as this landmark (i.e. from SR1001 Eastbound onto SR1002 Northbound)

GPS DATA
GPS: Complete the Principal Road section if GPS coordinates are going to be used to locate this crash. If GPS is entered for intersection or midblock crashes, it is not necessary to complete the Intersecting Road or Landmark sections.
Latitude/Longitude – Latitude and Longitude at the scene of the crash derived from a Global Positioning System unit. If using this area Degrees, Minutes, and Seconds (include the decimal part) must be fully completed.

See Appendix for format conversion functions.

TRAFFIC CONTROL DEVICE DATA

Traffic Control Device (TCD) - identifies the type of traffic control device present at the scene of the crash. If more than one type TCD, use the most controlling type.

Traffic Control Device (TCD) Functioning - Identifies if a traffic control device was functioning properly at the time of crash. Do not leave this field blank.

LANE CLOSURE DATA

Lane Closure – Indicate if the lane was closed due to the crash. If lane was not closed, Lane Closure should be completed as “non-applicable” and then skip the remaining part of this section. If the lane was closed, complete the Lane Closure Direction, Estimated Time Closed, and check if traffic was detoured.

UNIT DATA

Type Unit – Indicates the category or type of unit.

- Motor Vehicle in Transport – Any motorized vehicle moving or stopped (not parked). This includes unattended vehicles.
- Legally Parked – Where permitted, means the temporary storing of a vehicle whether occupied or not.
- Illegally Parked on Road – A vehicle parked where not permitted under the vehicle code.
- Hit & Run Vehicle – The vehicle left the scene prior to police arrival.
- Disabled From Previous Crash
- Non-Motorized Vehicle – Bicycle or other pedaled unit, horse and rider, horse and buggy/carriage, etc.
- Pedestrian – A person involved in the crash not in or on a vehicle. This can include persons sitting or prone or even person in a building or structure.
- Pedestrian on skates, in Wheelchair, etc. – People in Wheelchairs/mobility devices motorized or not; skateboards; skates; non-motorized scooters. NOT bicycles (see Non-Motorized Vehicle)
- Train – Refer to Vehicle Code (Title 75, Pennsylvania Consolidated Statutes.)
- Phantom Vehicle – A unit involved in the crash but is one where there is no contact between it and any other unit in the crash. In a sense, it is a unit that causes something to happen but is not directly involved in it. (There should be evidence or witness statement to corroborate existence of phantom vehicle).

Commercial Vehicle – Motor vehicle designed or used to transport passengers or property and:

- the vehicle has a Gross Vehicle Weight Rating (GVWR) of 10,001 or more pounds and used in commerce.
- the vehicle has a Gross Combination Weight Rating (GCWR) of 10,001 or more pounds and used on public highways.
- the vehicle is designed to transport 16 or more passengers, including the driver.
- the vehicle is a school bus; or
- the vehicle is transporting hazardous materials and is required to be placarded.

The term does not include an implement of husbandry, or a motor home or recreational trailer operated solely for personal use, or motorized construction equipment including, but not limited to, motor scrapers, backhoes, motor graders, compactors, excavators, tractors, trenchers, and bulldozers.

DRIVER / PEDESTRIAN DATA

Driver License Number – Enter the actual driver license number (leave blank for pedestrian)-OR- write in one of the following:
• UNKNOWN – Driver’s License number/status is unknown
• UNDER16 – Non-Licensed Driver under age 16
• 16PLUS – Non-Licensed Driver Age 16 Or Over
• NOTREQ – Not Required To Be Licensed

Class – Use value as found on driver license. Enter “UNK” if you do not know.

Vehicle Code Violations – Up to 4 Vehicle Code violations and their corresponding “charged” indicator can be entered.

- This includes pedestrians and non-motorists in traffic.
- Written Warning can now be selected as part of the corresponding “charged” indicator

Alcohol Test Results – “Pending” has been added to the list of results.

Drug Test Type – For drivers and pedestrians suspected of drug use, the type of drug test used.

Drug Test Results – The drug results from the toxicology report. If no drug were reported on the toxicology report, use “000=No Drugs Reported”. If more than 4 drugs were on the toxicology report, list the ones with the lowest numbers.

Driver Presence – Code that indicates presence/absence of the driver with respect to each vehicle involved in the crash, except parked vehicles.

• Driver Operated Vehicle – Operator of Motor Vehicle remained at the scene
• No Driver – Vehicle in motion not being operated (running or drifting)
• Driver Fled Scene – Vehicle remained at scene but the operator left the scene
• Hit and Run – Driver and vehicle left the scene without notifying police or exchanging information

Owner/Driver – Ownership classification of the Motor Vehicle

VEHICLE DATA

Owner Last Name – If the vehicle is owned by a business, it should be entered in the Owner Last Name field.

Vehicle Owner Phone Number – This was requested by police as useful information for report recipients.

Vehicle Make – the name plate of the vehicle, ex. Ford.

Vehicle Model – Enter the vehicle manufacturer’s model names such as “Explorer.” But do not enter the body type such as sedan, coupe, etc.

Vehicle Automation – The automation level of the motor vehicle. This will be a required field as of 1/1/2018.

• No-Automation: The driver is in complete and sole control of the primary vehicle controls – brake, steering, throttle, and motive power – at all times.
• Partial Automation: one or more specific control functions. Examples include electronic stability control or precharged brakes, where the vehicle automatically assists with braking to enable the driver to regain control of the vehicle or stop faster than possible by acting alone.
• Full Automation: The vehicle is designed to perform all safety-critical driving functions and monitor roadway conditions for an entire trip. Such a design anticipates that the driver will provide destination or navigation input, but is not expected to be available for control at any time during the trip. This includes both occupied and unoccupied vehicles.

Est Speed – Estimated speed at which the vehicle was traveling immediately prior to the crash based upon realistic operator statement or the investigator’s finding.

Trailing Unit - The type of a trailing unit being towed by a vehicle involved in crash. If more than one trailing unit,
put that information in the narrative.

**Direction of Travel** – Closest compass direction of travel (East, West, South, North) of the vehicle prior to loss of control.

**Vehicle Position** - Indicates the location of each vehicle when the crash scenario began.

**Movement** - Describes the type of vehicular movement prior to the loss of control.

**Vehicle Type** - General category of vehicle.

Please note the following change effective 1/1/2016.

20 = Bicycle – Use this only for Bicycles

21 = Other pedalcycle – use this for any pedaled unit other than a bicycle.

Please note the following change effective 1/1/2018.

08 = Autocycle – A three-wheeled motorcycle that has a steering wheel and seating that does not require the operator to straddle or sit astride

If you select any vehicle type of “Other”, please describe the vehicle in the narrative.

**Special Usage** - If the involved vehicle does not have any special usage listed, code “00= Not Applicable”. When a vehicle is being used for more than one, use the most descriptive code. Do not leave this field blank!

**Initial Impact Point** - Indicates the location on the vehicle of the initial collision with another vehicle or fixed object or that there was no collision.

**Damage Indicator** - Code that describes the extent to which a unit was damaged in the crash.

**PEOPLE DATA**

For each unit, all occupants of that unit should be listed in sequence followed by any subsequent units. The driver of each unit should be person 01. People in trains and phantom vehicles should not be listed, nor counted in Block 2.

**Person Type** (Box A) – Description of a person physically involved in the crash.

- **Driver** – The person in control of a vehicle in transit
- **Passenger** – any occupant of a vehicle in transit that is not the driver or any occupant of a parked vehicle
- **Pedestrian** – Any person in a crash that is not a driver or vehicle occupant. This includes pedestrian conveyances such as skateboards, motorized wheelchairs and mobility devices, on skates, walking a bicycle, etc.
- **Other** – This will never apply and will be removed in the future
- **Unknown** – If it is not known which of the vehicle occupants was the driver, the occupants can be listed as person type “Unknown.”

**Injury Severity** (Box C) - Describes the extent of injury of an involved person. PLEASE NOTE this now corresponds to the Federal guidelines for injury severity (KABCO).

- **Not Injured** – no evidence of injury or complaint of pain at the crash scene.
- **Fatal Injury** – A fatal injury is any injury that results in death within 30 days after the motor vehicle crash in which the injury occurred. If the person did not die at the scene but died within 30 days of the motor vehicle crash in which the injury occurred, the injury classification should be changed from the attribute previously assigned to the attribute “Fatal Injury.”

- **Suspected Serious Injury** – A suspected serious injury is any injury other than fatal which results in one or more of the following:
  - Severe laceration resulting in exposure of underlying tissues/muscle/ organs or resulting in significant loss of blood
• Broken or distorted extremity (arm or leg)
• Crush injuries
• Suspected skull, chest or abdominal injury other than bruises or minor lacerations
• Significant burns (second and third degree burns over 10% or more of the body)
• Unconsciousness when taken from the crash scene
• Paralysis
• Incapacitating injury, including bleeding wounds and distorted members (amputations or broken bones), and requires transport of the patient from the scene.

• **Suspected Minor Injury** – A minor injury is any injury that is evident at the scene of the crash, other than fatal or serious injuries. Examples include lump on the head, abrasions, bruises, minor lacerations (cuts on the skin surface with minimal bleeding and no exposure of deeper tissue/muscle).

• **Possible Injury** – A possible injury is any injury reported or claimed which is not a fatal, suspected serious, or suspected minor injury. Examples include momentary loss of consciousness, claim of injury, limping, or complaint of pain or nausea. Possible injuries are those that are reported by the person or are indicated by his/her behavior, but no wounds or injuries are readily evident.

• **Injury, Unk Severity** - Use this value if you know that an occupant or pedestrian was injured, but you are not sure of the severity.

• **Died Prior to Crash** – It has been determined that the person died as the result of a condition prior to the crash that resulted in their death.

• **Unknown** - Use this value if you do not know if the occupant or pedestrian was injured or not. Do not use this value if you know the person was injured but do not know how severely.

**Safety Equipment 1** – As of 1/1/2018, “04=Child Safety Seat” will no longer be accepted as a valid restraint type. It has been replaced with the following:
• “21=Child Safety Seat (Rear Facing)”
• “22=Child Safety Seat (Front Facing)”
• “23=Booster Seat”
• “24=Child Restraint Unknown”
“98=Other Restraint Type” has also been added.

**Ejection** – Federal reporting requirements have changed in regard to ejection. Ejection should now be recorded for all occupants of all motor vehicles (including ATVs, Snowmobiles, go-karts, etc.) except:
- Drivers and passengers of motorcycles
- Occupants of vehicles that have a passenger compartment who are riding on the outside of the passenger compartment (except for those in pickup beds, on open tailgates or in the boot of a convertible)

**Ejection Path** - To accommodate the new requirement, an ejection path of “Vehicle Exterior or Other” has been added.

**EMS Agency / Medical Facility** - for each person transported to a medical facility, specify the EMS Agency and Medical Facility. If a person is not transported, these fields should be left blank.

**GENERAL CRASH DATA**

**Crash Description** – Identifies the type of crash as defined by the first harmful event of the crash. If the first harmful event involved hitting a fixed object, then the description can only be “Hit Fixed Object.” (Head-on, sideswipe, etc. are only to describe how two units contact each other)

**Relation to Roadway** – Identifies where the first harmful event occurred with respect to the roadway.
UNIT HARMFUL EVENTS DATA

Harmful Event – Crash event(s) for this unit, i.e., identifies what was hit or exposed in the crash. It is important that this event caused injury or property damage and the event can be actually seen. (See Harmful Events in the definitions section of this Manual.)

L/R – Code this field only when the harmful event is one where a fixed object is hit. Indicate if the fixed object is to the left or right of the roadway depending on the direction the unit was traveling before control was lost.

(From the Driver’s Perspective.)

L = Left
O = Other
R = Right
U = Unknown

Most? – Check the oval in the column next to the event that indicates which harmful event contributed the most damage to the unit or injury based upon your investigation. One event MUST be selected as MOST harmful for each unit.

Utility Pole Number – If Harmful Event is “struck utility pole”, indicate the top number to the left displayed on pole. The number can be found about six feet above the ground on the pole. Since poles have more than one number, always use the top number or the one to the left. Do not leave this blank if a pole is involved. Code all “9”s if the pole number is not known.

CRASH FIRST AND MOST HARMFUL EVENT DATA

First Harmful Event in the Crash - Indicates the first damage or injury-producing event that occurred in the crash.

• Unit No- Specify the unit number for the unit that had the first harmful event in the crash.

• Harmful Event – This should match the first harmful event from the selected unit. This field must not be blank!

Most Harmful Event in the Crash - The event that causes the most damage or injury for the crash based upon your investigation of the crash.

• Unit No - Specify the unit number for the unit that had the most harmful event in the crash. This field must not be blank!

• Harmful Event - For this particular field, this is the event that produced the most harm in the crash. It must be chosen from one of the unit most harmful events. This field must not be blank!

CONTRIBUTING FACTORS DATA

Contributing Factors - These fields identify what the investigating officer deduces as potential reasons for the crash’s occurrence based upon their investigation. There must be at least one entry in one of the four applicable categories. However, you should select all fields that are applicable. (See Contributing Information in the definitions section of this Manual)

• Environmental/Roadway Potential Factors (E/R) – based upon the crash as a whole, not for each unit. If there are no Environmental/Roadway Potential Factors enter “00=None”.

- As of 1/1/2018 the following Environmental/Roadway Factors will be added:
  • Debris
  • Worn Travel Polished surface
  • Non-Highway Work
  • Backup (Prior Crash)
  • Backup (non-recurring incident/event)
  • Backup (normal congestion)
  • Toll Booth
• Possible Vehicle Failures (V) - If there are no Vehicle Failures for a unit, indicate the unit number and enter “00=None”. Each unit needs to be coded with at least one value.

• Driver Action (D) - If there are no driver actions for a unit, indicate the unit number and enter the value “00=No Contributing Action”. Each unit needs to be coded with at least one value.
  - As of 1/1/2018 the following Driver Actions have been added:
    • Texting/Typing on an Electronic Device
    • Dialing

• Pedestrian Action (P) - If there are no pedestrian actions, indicate the unit number and enter “00=None”.

PRIME FACTOR DATA
Indicated Prime Factor – Select one of the factors from Block 18 as the Prime Factor. This factor is the one the officer identifies, based upon his/her investigation, and is the most contributing factor to the occurrence of this crash.

• E/R, V, D, P - The category from which the indicated prime factor is taken.

• Unit No - The unit number from the prime factor. This can be “99” meaning unknown. For example: if in a crash, you have two units involved and one of them runs a red traffic signal, but you do not know which unit, code “99” as the unit number. Leave this field blank for an Environmental/Roadway Prime Factor.

• Factor Code – Enter the code from Block 18 selected as the Prime Factor.

DIAGRAM AND NARRATIVE
Diagram - Sketch the crash scene, showing the roadway(s) involved (including intersections, curves, etc.) and the location of the unit(s) at the time of collision. Though the diagram does not need to be drawn to scale, it should include the entire crash scene. If you arrive at the scene after the units have been removed, recreate the crash scene from statements of witnesses and physical evidence. Do not draw a diagram indicating the position of the vehicles upon arrival. Show how the crash occurred.

Narrative - There is no PennDOT requirement to repeat anything here that has been covered in the codes. However, anything not covered in codes that is needed by local investigating agencies should be included in the narrative.

COMMERCIAL VEHICLE CRASH DATA
If one of the units is a commercial vehicle, complete all fields in Block 23 for that unit. (This is a federal requirement)

Carrier Name - Name of motor carrier. (The motor carrier is the company or agency that has responsibility for the movement of the goods from one point to another. The motor carrier may or may not be the registered owner of the vehicle. Make sure the information entered is for the correct party.)

GVWR - Gross Vehicle Weight Rating of the commercial vehicle involved in the crash.

USDOT # - This unique number is assigned to this commercial vehicle by the United States Department of Transportation.

PUC# - This unique number is assigned to this vehicle by the Pennsylvania Utilities Commission.

(Please Hazardous Materials – One-digit number that indicates the class of hazardous material being carried.)
FATAL CRASH DATA
The information in the Road Surface Type and Special Jurisdiction fields are filled in once per crash.

FATAL CRASH UNIT DATA
Whenever you have a fatal crash, the unit information on the fatal page should be completed for each unit, driver and pedestrian involved in a fatal crash. Do not complete for trains, parked cars, or phantom vehicles. (This is a Federal requirement. PennDOT is required to collect this information for each motor vehicle involved in a fatal crash.)

**Driver Restriction Compliance** – Indicates whether the involved driver was compliant with any driver license restrictions.

**Driver Endorsement Compliance** – Identifies whether driver was complying with driver license endorsements (i.e., CDL with hazardous material endorsement, school bus endorsement, etc.)

**Under Ride Indicator** – Code that indicates the way in which two vehicles with unequal height collided.
(Motorcycles cannot over or under ride)
- Underride refers to a vehicle going under another vehicle during a crash.
- Override refers to a vehicle traveling over another vehicle during a crash.

MOTORCYCLE CRASH DATA
**Driver has Motorcycle Education** – Ask the driver if they have had any motorcycle education.

**Helmet has DOT or Snell Designation** – Indicate if the helmet worn was a type that was certified by DOT or Snell. There should be a designation on the helmet.

Please note that Motorcycle Data is not collected for Autocycles

PEDESTRIAN CRASH DATA
**Pedestrian Signals and Clothing** – Please complete this information even if it is unknown.

**Pedestrian Location** - Identifies where the pedestrian was walking, standing, etc. at the time of the crash.

WORK ZONE CRASH DATA
**Work Zone Type** – Identifies the type of road work being conducted in the work zone related to the crash.
- Construction – Generally work taking more than 24 hours.
- Maintenance – Generally work taking 24 hours or less.

**Where in Work Zone** – Indicates the location within the work zone in which the crash occurred. If on a road entering a work zone, use the work zone area where the road intersects.

List all Warning Signs Present at Location in the narrative section.
UPDATING/DELETING INFORMATION

Updating Information on a case that has already been APPROVED

- Cases entered using the Crash Reporting System website
  - To change information on an already approved case, you simply need to bring up the case and make the appropriate changes. The system will warn you that making a change to a case will place that case back to a work in progress.
  - Once you have completed any necessary changes, the case will need to be re-approved.

- Cases entered using a software package
  - Any time a change is made to a crash case, the crash will need to be resubmitted to PennDOT for the changes to take effect. Contact your software vendor for instructions on how to resubmit a crash case.

DELETING A UNIT OR PERSON

- On the web site, you can delete an entire unit from the crash by going to the unit page for that unit and clicking the “DELETE” button at the top of the screen. To delete a person from the crash, select the “delete” checkbox for that person then click the “DELETE” button at the top of the page.

- If you are using a software package, contact the vendor for information on deleting items. Resubmitting a crash case from a software package will delete the original case and replace it with the updated case.

DELETING AN ENTIRE CASE

You must contact PennDOT by email, letter or fax to delete an entire case. Include the report number, crash date, and police agency code. Our FAX Number is (717) 525-5385. Our email address is ra-penndotcrashhelp@pa.gov.
<table>
<thead>
<tr>
<th></th>
<th>COUNTY CODES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Adams</td>
</tr>
<tr>
<td>2</td>
<td>Allegheny</td>
</tr>
<tr>
<td>3</td>
<td>Armstrong</td>
</tr>
<tr>
<td>4</td>
<td>Beaver</td>
</tr>
<tr>
<td>5</td>
<td>Bedford</td>
</tr>
<tr>
<td>6</td>
<td>Berks</td>
</tr>
<tr>
<td>7</td>
<td>Blair</td>
</tr>
<tr>
<td>8</td>
<td>Bradford</td>
</tr>
<tr>
<td>9</td>
<td>Bucks</td>
</tr>
<tr>
<td>10</td>
<td>Butler</td>
</tr>
<tr>
<td>11</td>
<td>Cambria</td>
</tr>
<tr>
<td>12</td>
<td>Cameron</td>
</tr>
<tr>
<td>13</td>
<td>Carbon</td>
</tr>
<tr>
<td>14</td>
<td>Centre</td>
</tr>
<tr>
<td>15</td>
<td>Chester</td>
</tr>
<tr>
<td>16</td>
<td>Clarion</td>
</tr>
<tr>
<td>17</td>
<td>Clearfield</td>
</tr>
</tbody>
</table>
# NORTH AMERICAN POSTAL CODES

| UNITED STATES | AL Alabama      | ME Maine       | OR Oregon       | CANANDA  |
|              | AK Alaska       | MD Maryland    | PA Pennsylvania | AB Alberta  |
|              | AZ Arizona      | MA Massachusetts| PR Puerto Rico  | BC British Colombia |
|              | AR Arkansas     | MI Michigan    | RI Rhode Island | MB Manitoba |
|              | CA California   | MN Minnesota   | SC South Carolina| NB New Brunswick |
|              | CO Colorado     | MS Mississippi | SD South Dakota | NF Newfoundland |
|              | CT Connecticut  | MO Missouri    | TN Tennessee    | NT Northwest |
|              | DE Delaware     | MT Montana     | TX Texas        | Territories |
|              | DC District of Columbia | NE Nebraska | UT Utah       | NS Nova Scotia |
|              | FL Florida      | NV Nevada      | VT Vermont      | NT Nunavut |
|              | GA Georgia      | NH New Hampshire | VA Virginia | ON Ontario |
|              | HI Hawaii       | NJ New Jersey  | WA Washington   | PE Prince Edward Island |
|              | ID Idaho        | NM New Mexico  | WV West Virginia | QC Quebec |
|              | IL Illinois     | NY New York    | WI Wisconsin WY | SK Saskatchewan |
|              | IN Indiana      | NC North Carolina | Wyoming | YT Yukon Territory |
|              | IA Iowa         | ND North Dakota |               |          |
|              | KS Kansas       | OH Ohio        |               |          |
|              | KY Kentucky     | OK Oklahoma    |               |          |

### CANANDA
- AB Alberta
- BC British Colombia
- MB Manitoba
- NB New Brunswick
- NF Newfoundland
- NT Northwest Territories
- NS Nova Scotia
- NU Nunavut
- ON Ontario
- PE Prince Edward Island
- QC Quebec
- SK Saskatchewan
- YT Yukon Territory

### MEXICO

<table>
<thead>
<tr>
<th></th>
<th>AG Aguascalientes</th>
<th>DU Durango</th>
<th>NL Nuevo Leon</th>
<th>TB Tabasco</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>BN Baja California North</td>
<td>GR Guerrero</td>
<td>OA Oaxaca</td>
<td>TL Tlaxcala</td>
</tr>
<tr>
<td></td>
<td>BS Baja California South</td>
<td>GT Guanajuato</td>
<td>PU Puebla</td>
<td>VC Vera Cruz</td>
</tr>
<tr>
<td></td>
<td>CH Chihuahua</td>
<td>HG Hidalgo JA</td>
<td>QE Queretaro</td>
<td>YC Yucatan</td>
</tr>
<tr>
<td></td>
<td>CI Coahuila</td>
<td>Jalisco</td>
<td>QR Quintana Roo</td>
<td>ZA Zacatecas</td>
</tr>
<tr>
<td></td>
<td>CL Colima</td>
<td>MC Michoacan</td>
<td>SI Sinaloa</td>
<td>OTHER</td>
</tr>
<tr>
<td></td>
<td>CM Campeche</td>
<td>ML Morelos</td>
<td>SL San Luis Potosi</td>
<td>ZF Unknown Foreign State</td>
</tr>
<tr>
<td></td>
<td>CS Chiapas</td>
<td>MX Mexico</td>
<td>SO Sonora</td>
<td>ZI International Foreign</td>
</tr>
<tr>
<td></td>
<td>DF Federal District</td>
<td>NA Nayarit</td>
<td>TA Tamaulipas</td>
<td>ZO Other Foreign</td>
</tr>
</tbody>
</table>
## Reportable / Non-Reportable Crash Examples

### The following crashes are NOT REPORTABLE:

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>Two eager shoppers collide while trying to enter the same parking space. One of the drivers sustains a minor injury.</td>
<td>This is not a reportable crash as the stalls in a parking lot do not meet the definition of a highway or trafficway and this crash is therefore excluded.</td>
</tr>
<tr>
<td>A horse and buggy are on a public road and strike a van parked on the side of the road.</td>
<td>Neither the parked car nor the horse and buggy are considered a motor vehicle in transport; therefore this situation is non-reportable.</td>
</tr>
<tr>
<td>A bicyclist hits a curb and is thrown from the bike causing injury.</td>
<td>A bicycle is not considered a motor vehicle in transport. Since there are no motor vehicles in transport involved, this incident is not reportable.</td>
</tr>
<tr>
<td>A vehicle runs off the roadway and hits a tree sustaining minor damage. Although the driver was not injured, his BAC was found to be 0.20%. The investigating officer ordered the vehicle towed.</td>
<td>This incident is not a reportable crash as the vehicle had minor damage and there was no injury. The vehicle was towed because of the D.U.I, not due to the severity of damage.</td>
</tr>
</tbody>
</table>

### The following crashes are considered REPORTABLE:

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>A car catches fire while being driven down a city street and is able to stop without crashing or causing injury. The car cannot be driven.</td>
<td>Even though there was no collision, this is a reportable crash because it occurred on an open trafficway and the vehicle had to be towed due to damage.</td>
</tr>
<tr>
<td>An emergency vehicle traveling on a call proceeds through an intersection, with traffic signal on red, and is struck by another vehicle. There is minor damage and the driver sustained minor injuries.</td>
<td>Even though the emergency vehicle was on a call, it does not preclude the driver from following all rules of the road, including stopping at a traffic signal.</td>
</tr>
</tbody>
</table>

## How to Locate a Midblock Crash

Example: Main Street, SR0123, approximately 500 feet from Maple Street toward Cherry Street.

The principal road should contain both the route number (0123) and local street name (Main Street).

If you are not going to use GPS coordinates or a street address (House Number) - both landmarks MUST be completed in order to locate the crash.

Each landmark should contain at least one of:

- State Route Number
- Street Name
- Milepost

Landmark 2 does not have to be the street immediately on the other side of the crash, as long as the chosen street is on the other side of the crash from Landmark 1.
HOW TO LOCATE A RAMP CRASH
All crashes involving a ramp should be coded with a special location of “Ramp.”

The diagram shows the I-90/Peach Street interchange in Erie County. The ramps at this interchange are considered SR8014. There are three different intersection types for ramp crashes:

**On Ramp / Off Ramp intersections** – the gore areas of Interstate 90 would be coded as on or off ramps. Be sure to code the correct orientation for both the principal and intersecting roads.

**Ramp at an intersection** – if an interchange ramp is used as one of the intersecting roads, be sure to put the orientation of the State Route the ramp is coming from or going to. In this example you could use SR8014 with an orientation of W and SR0019 with an orientation of N to designate the intersection of Peach Street and the westbound ramps.

**Midblock Crash on a Ramp** – All ramps are state routes with a 4 digit route number starting with an 8. The ramp will be the principal road and you should use this 8000 series number as the Route Number. If you do not know the route number, use “RAMP” and the street name and “RD” as the street ending.

You can use GPS coordinates, or you can use the coming from and going to roadways including the orientation to determine which ramp.

---

### [4] *Principal Road*

<table>
<thead>
<tr>
<th>Route Number</th>
<th>Segment Optional</th>
<th>Travel Lanes</th>
<th>Speed Limit</th>
<th>House Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Street Name</td>
<td>Street Ending</td>
<td>Orientation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RAMP</td>
<td>RD=Road</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Route Signing**
- State highway
- GISLookup
- All

### [6] *Distance from Landmark* Please enter information for BOTH Landmarks

<table>
<thead>
<tr>
<th>Landmark 1</th>
<th>or Mile Post</th>
<th>or Segment Marker</th>
</tr>
</thead>
<tbody>
<tr>
<td>Route Number</td>
<td>[0090]</td>
<td>Orientation Ramp use only</td>
</tr>
<tr>
<td>or Street Name</td>
<td></td>
<td>East</td>
</tr>
</tbody>
</table>

Distance from crash scene to Landmark 1: For Crash between Landmark 1 and Landmark 2
- Feet: [0200]
- Mile: [00]

<table>
<thead>
<tr>
<th>Landmark 2</th>
<th>or Mile Post</th>
<th>or Segment Marker</th>
</tr>
</thead>
<tbody>
<tr>
<td>Route Number</td>
<td>[0019]</td>
<td>Orientation Ramp use only</td>
</tr>
<tr>
<td>or Street Name</td>
<td></td>
<td>North</td>
</tr>
</tbody>
</table>
HOW TO LOCATE A “TRAFFIC CIRCLE” OR A “ROUNDABOUT”

Intersection type should be selected as:

- “Roundabout” - only for the modern roundabouts that meet the federal requirements for a 21st Century “Modern Roundabout”.
- “Traffic Circle” - only for yield controlled rotary intersections that are not modern roundabouts.

On the location page, enter the Principal Road and either:

- Intersecting Road - Please provide an accurate location within the intersection using a descriptive narrative or diagram; or
- GPS coordinates - Please provide coordinates that place the crash at the exact location within the intersection

NON-FATAL CRASHES INVOLVING FATALITIES

A driver going down a road has a heart attack and dies. The car then leaves the road and hits a tree.

Although a death occurred, this case is NOT considered a fatal crash, since the crash did not cause the fatality. Fatal Crash data does not need to be completed.

Please note that the determination of a fatal crash comes from the coroner’s determination of cause of death.

PRIVATE PROPERTY / PARKING LOT CRASHES

Crashes that take place on private property are only reportable if they take place on a laned travelway intended for traffic entering or leaving the property. The lanes between parking spaces or any open area would be considered non-reportable.

STRUCK BY OBJECT THROWN BY ANOTHER VEHICLE

If an object is thrown from a unit (such as cargo, a detached wheel, crash debris, ice, etc.) or if an object is set in motion by another unit (a stone, struck construction barrel, etc.) then that object is considered as part of that unit until it comes to rest.

Example: Unit 1 strikes a construction barrel and that barrel then strikes unit 2. The harmful events would be:

- For unit 1, Other Non-Collision
- For unit 2, “Struck by thrown or falling object”- For Crash Description, "Non-Collision" should be used if this was the first harmful event in the crash.
COUNTY MAPS
For a current map (PDF format) showing all state route and ramp route numbers for your county: http://www.penndot.gov/ProjectAndPrograms/Planning/Maps/Pages/County-Type-10.aspx

GPS CONVERSION FROM DECIMAL DEGREES
Many GPS devices and mapping software will return GPS coordinates in decimal degrees such as: 40.812229, -77.853814

To convert to Degrees, Minutes and seconds

- Take the decimal portion of each coordinate and multiply them by 60 to get Minutes (ex. .81229 X 60 = 48.73374 )
- Then take the decimal portion of the minutes and multiply by 60 to get the seconds (ex. .73374 X 60 = 42.024)
- 40.812229 degrees = 40 degrees, 48 minutes, 42.024 seconds