

EUROPEAN PATENT OFFICE
U.S. PATENT AND TRADEMARK OFFICE

CPC NOTICE OF CHANGES 578

DATE: JANUARY 1, 2019

PROJECT RP0555

The following classification changes will be effected by this Notice of Changes:

<u>Action</u>	<u>Subclass</u>	<u>Group(s)</u>
SCHEME:		
Symbols Deleted:	G01R	2031/3603, 31/3606, 31/361, 31/3613, 31/3617, 31/362, 31/3624, 31/3627, 31/3631, 31/3634, 31/3637, 31/3641, 31/3651, 31/3655, 31/3658, 31/3662, 31/3665, 31/3668, 31/3672, 31/3675, 31/3679, 31/3682, 31/3686, 31/3689, 31/3693, 31/3696
Symbols New:	G01R	31/364, 31/3646, 31/3647, 31/367, 31/371, 31/374, 31/378, 31/379, 31/38, 31/382, 31/3828, 31/3832, 31/3833, 31/3835, 31/3842, 31/385, 31/386, 31/3865, 31/387, 31/388, 31/389, 31/392, 31/396
Titles Changed:	G01R	1/0416, 31/07, 31/08, 31/30, 31/327, 31/333, 31/36, 31/3644, 31/42, 31/44
Notes Modified:	G01R	31/36
DEFINITIONS:		
Definitions New:	G01R	31/30, 31/367, 31/371, 31/3835, 31/385, 31/396
Definitions Modified:	G01R	31/00, 31/08, 31/36

The following subclasses/groups are also impacted by this Notice of Changes (indicate subclasses/groups outside of the project scope, such as those listed in the CRL):
B60K 35/00, B60K 37/02, B60L 11/1861, G01K 13/00

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This Notice of Changes includes the following *[Check the ones included]:*

1. CLASSIFICATION SCHEME CHANGES

- A. New, Modified or Deleted Group(s)
- B. New, Modified or Deleted Warning(s)
- C. New, Modified or Deleted Note(s)
- D. New, Modified or Deleted Guidance Heading(s)

2. DEFINITIONS

- A. New or Modified Definitions (Full definition template)
- B. Modified or Deleted Definitions (Definitions Quick Fix)

3. REVISION CONCORDANCE LIST (RCL)

4. CHANGES TO THE CPC-TO-IPC CONCORDANCE LIST (CICL)

5. CHANGES TO THE CROSS-REFERENCE LIST (CRL)

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1. CLASSIFICATION SCHEME CHANGES

A. New, Modified or Deleted Group(s)

**SUBCLASS G01R – MEASURING ELECTRIC VARIABLES; MEASURING MAGNETIC VARIABLES
(indicating correct tuning of resonant circuits H03J 3/12)**

<u>Type</u> *	<u>Symbol</u>	<u>Indent Level Number of dots (e.g. 0, 1, 2)</u>	<u>Title (new or modified)</u> “CPC only” text should normally be enclosed in {curly brackets}**	<u>Transferred to#</u>
M	G01R 1/0416	4	{Connectors, terminals (G01R1/0425 and G01R1/0433 take precedence; with measurement function for battery poles G01R 31/364)}	
U	G01R 31/00	0	Arrangements for testing electric properties; Arrangements for locating electric faults; Arrangements for electrical testing characterised by what is being tested not provided for elsewhere ({measuring superconductive properties G01R33/1238;} testing or measuring semiconductors or solid state devices during manufacture {H01L22/00}; testing line transmission systems H04B3/46)	
M	G01R 31/07	2	Testing of fuses	
M	G01R 31/08	1	Locating faults in cables, transmission lines, or networks	
M	G01R 31/30	2	Marginal testing, e.g. by varying supply voltage (testing computers during standby operation or idle time G06F 11/22)	
M	G01R 31/327	1	Testing of circuit interrupters, switches or circuit-breakers	
M	G01R 31/333	2	Testing of the switching capacity of high-voltage circuit-breakers {; Testing of breaking capacity or related variables, e.g. post arc current or transient recovery voltage}	
E	G01R 31/36	1	Arrangements for testing, measuring or monitoring the electrical condition of accumulators or electric batteries, e.g. capacity or state of charge [SoC]	
D	G01R 2031/3603	2	{Deleted}	<administrative transfer to G01R 31/36>
D	G01R 31/3606	2	{Monitoring, i.e. measuring or determining some variables continuously or repeatedly over time, e.g. current, voltage, temperature, state-of-charge [SoC] or state-of-health [SoH] (G01R 31/3627, G01R 31/3644 take precedence)}	<administrative transfer to G01R 31/382>
D	G01R 31/361	3	{using current integration}	<administrative transfer to G01R 31/3828>

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Type *	Symbol	Indent Level Number of dots (e.g. 0, 1, 2)	Title (new or modified) “CPC only” text should normally be enclosed in {curly brackets}**	Transferred to#
D	G01R 31/3613	4	{without voltage measurement}	<administrative transfer to G01R 31/3832>
D	G01R 31/3617	5	{using analog integrators, e.g. coulomb-meters}	<administrative transfer to G01R 31/3833>
D	G01R 31/362	3	{based on measuring voltage only (by comparing voltage with a reference value G01R19/16542)}	<administrative transfer to G01R 31/3835>
D	G01R 31/3624	3	{based on combined voltage and current measurement (G01R31/361 takes precedence)}	<administrative transfer to G01R 31/3842>
D	G01R 31/3627	2	{Testing, i.e. making a one-time determination of some variables, e.g. testing ampere-hour charge capacity (G01R31/3644 takes precedence)}	<administrative transfer to G01R 31/385>
D	G01R 31/3631	3	{based on the use of test loads}	<administrative transfer to G01R 31/386>
D	G01R 31/3634	3	{for determining the ampere-hour charge capacity or state-of-charge (SoC) (G01R31/3631 takes precedence)}	<administrative transfer to G01R 31/387>
D	G01R 31/3637	4	{based on voltage measurements}	<administrative transfer to G01R 31/388>
N	G01R 31/364	2	Battery terminal connectors with integrated measuring arrangements	
D	G01R 31/3641	3	{related to manufacture, e.g. testing after manufacture}	<administrative transfer to G01R 31/3865>
M	G01R 31/3644	2	{Constructional arrangements}	
N	G01R 31/3646	3	{for indicating electrical conditions or variables, e.g. visual or audible indicators}	
N	G01R 31/3647	3	{for determining the ability of a battery to perform a critical function, e.g. cranking}	
U	G01R 31/3648	3	{comprising digital calculation means, e.g. for performing an algorithm}	
D	G01R 31/3651	4	{Software aspects, e.g. battery modeling, using look-up tables, neural networks}	<administrative transfer to G01R 31/367>
D	G01R 31/3655	4	{the digital calculation means being combined with the battery or battery pack}	<administrative transfer to H01M 10/48>
D	G01R 31/3658	3	{for testing or monitoring individual cells or groups of cells in a battery}	<administrative transfer to G01R 31/396>
D	G01R 31/3662	3	{involving measuring the internal battery impedance, conductance or related variables}	<administrative transfer to G01R 31/389>
D	G01R 31/3665	3	{whereby the type of battery is of primary emphasis, e.g. determining the type of battery}	<administrative transfer to G01R 31/378>
D	G01R 31/3668	4	{Lead-acid batteries}	<administrative transfer to G01R 31/379>
D	G01R 31/3672	4	{Primary cells, i.e. not rechargeable}	<administrative transfer to G01R 31/38>
N	G01R 31/367	2	Software therefor, e.g. for battery testing using modelling or look-up tables	

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Type *	Symbol	Indent Level Number of dots (e.g. 0, 1, 2)	Title (new or modified) “CPC only” text should normally be enclosed in {curly brackets}**	Transferred to#
D	G01R 31/3675	3	{for compensating for temperature or ageing}	<administrative transfer to G01R 31/374>
D	G01R 31/3679	3	{for determining battery ageing or deterioration, e.g. state-of-health (SoH), state-of-life (SoL)}	<administrative transfer to G01R 31/392>
D	G01R 31/3682	3	{for indicating electrical conditions or variables, e.g. visual or audible indicators}	<administrative transfer to G01R 31/3646>
D	G01R 31/3686	4	{the indicator being combined with the battery}	<administrative transfer to H01M 10/48>
D	G01R 31/3689	4	{the indication being remote from the battery}	<administrative transfer to G01R 31/371>
D	G01R 31/3693	3	{for determining the ability of a battery to perform a critical function, e.g. cranking}	<administrative transfer to G01R 31/3647>
D	G01R 31/3696	3	{Battery pole connectors combined with measurement function (end pieces for connections to batteries H01R11/281)}	<administrative transfer to G01R 31/364>
N	G01R 31/371	2	with remote indication, e.g. on external chargers	
N	G01R 31/374	2	with means for correcting the measurement for temperature or ageing	
N	G01R 31/378	2	specially adapted for the type of battery or accumulator	
N	G01R 31/379	3	for lead-acid batteries	
N	G01R 31/38	3	{Primary cells, i.e. not rechargeable}	
N	G01R 31/382	2	Arrangements for monitoring battery or accumulator variables, e.g. SoC	
N	G01R 31/3828	3	using current integration	
N	G01R 31/3832	4	without measurement of battery voltage	
N	G01R 31/3833	5	{using analog integrators, e.g. coulomb-meters}	
N	G01R 31/3835	3	involving only voltage measurements	
N	G01R 31/3842	3	combining voltage and current measurements	
N	G01R 31/385	2	Arrangements for measuring battery or accumulator variables (for monitoring G01R 31/382)	
N	G01R 31/386	3	{using test-loads}	
N	G01R 31/3865	3	{related to manufacture, e.g. testing after manufacture}	
N	G01R 31/387	3	Determining ampere-hour charge capacity or SoC	
N	G01R 31/388	4	involving voltage measurements	
N	G01R 31/389	2	Measuring internal impedance, internal conductance or related variables	
N	G01R 31/392	2	Determining battery ageing or deterioration, e.g. state of health	
N	G01R 31/396	2	Acquisition or processing of data for testing or for monitoring individual cells or groups of cells within a battery	

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<u>Type</u> *	<u>Symbol</u>	<u>Indent</u> <u>Level</u> <u>Number</u> <u>or</u> <u>dots</u> <u>(e.g. 0,</u> <u>1, 2)</u>	<u>Title</u> <u>(new or modified)</u> <u>“CPC only” text should normally be enclosed</u> <u>in {curly brackets}**</u>	<u>Transferred to#</u>
U	G01R 31/40	1	Testing power supplies (testing photovoltaic devices H02S 50/10)	
M	G01R 31/42	2	AC power supplies	
M	G01R 31/44	1	Testing lamps	

*N = new entries where reclassification into entries is involved; C = entries with modified file scope where reclassification of documents from the entries is involved; Q = new entries which are firstly populated with documents via administrative transfers from deleted (D) entries. Afterwards, the transferred documents into the Q entry will either stay or be moved to more appropriate entries, as determined by intellectual reclassification; E= existing entries with enlarged file scope, which receive documents from C or D entries, e.g. when a limiting reference is removed from the entry title; M = entries with no change to the file scope (no reclassification); D = deleted entries; F = frozen entries will be deleted once reclassification of documents from the entries is completed; U = entries that are unchanged.

NOTES:

- **No {curly brackets} are used for titles in CPC only subclasses, e.g. C12Y, A23Y; 2000 series symbol titles of groups found at the end of schemes (orthogonal codes); or the Y section titles. The {curly brackets} are used for 2000 series symbol titles found interspersed throughout the main trunk schemes (breakdown codes).
- For U groups, the minimum requirement is to include the U group located immediately prior to the N group or N group array, in order to show the N group hierarchy and improve the readability and understanding of the scheme. Always include the symbol, indent level and title of the U group in the table above.
- All entry types should be included in the scheme changes table above for better understanding of the overall scheme change picture. Symbol, indent level, and title are required for all types except “D” which requires only a symbol.
- #“Transferred to” column must be completed for all C, D, F, and Q type entries. F groups will be deleted once reclassification is completed.
- When multiple symbols are included in the “Transferred to” column, avoid using ranges of symbols in order to be as precise as possible.
- For administrative transfer of documents, the following text should be used: “< administrative transfer to XX>” or “<administrative transfer to XX and YY simultaneously>” when administrative transfer of the same documents is to more than one place.
- Administrative transfer to main trunk groups is assumed to be “invention information”, unless otherwise indicated, and to 2000 series groups is assumed to be “additional information”.

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C. New, Modified or Deleted Note(s)

**SUBCLASS G01R – MEASURING ELECTRIC VARIABLES; MEASURING MAGNETIC VARIABLES
(indicating correct tuning of resonant circuits H03J 3/12)**

Type*	Location	Old Note	New/Modified Note
M	G01R 31/36	This group <u>covers</u> arrangements for measuring, testing or indicating electrical conditions or variables of accumulators or electric batteries. Accumulators combined with arrangements for measuring, testing or indicating condition, or arrangements for measuring, testing or indicating conditions or variables other than electrical, e.g. level or density of battery electrolyte, are covered by the group H01M10/48 and subgroups	{This group <u>covers</u> arrangements for measuring, testing or indicating electrical conditions or variables of accumulators or electric batteries. Arrangements for monitoring, measuring, testing or indicating condition structurally associated with the battery are covered by H01M, e.g. by group H01M10/48}

*N = new note, M = modified note, D = deleted note

NOTE: The “Location” column only requires the symbol PRIOR to the location of the note. No further directions such as “before” or “after” are required.

2. A. DEFINITIONS (new)

Insert: The following new Definitions.

G01R 31/30

References

Limiting references

This place does not cover:

Testing computers during standby operation or idle time	G06F 11/22
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G01R 31/367

Definition statement

This place covers:

The software aspect of testing of accumulators or electric batteries, e.g. computational or data processing aspects.

Examples include:

- use of self-learning or adaptive systems, e.g. neural networks;
- use of look-up tables or fuzzy logic;
- Kalman filters;
- testing characterized by battery modelling.

References

Application-oriented references

Examples of places where the subject matter of this place is covered when specially adapted, used for a particular purpose, or incorporated in a larger system:

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Acquisition or processing of data to test or to monitor individual cells or groups of cells within a battery	G01R 31/396
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Informative references

Attention is drawn to the following places, which may be of interest for search:

Processes for controlling fuel cells or fuel cell systems characterised by the implementation of mathematical or computational algorithms, e.g. feedback control loops, fuzzy logic, neural networks or artificial intelligence	H01M 8/04992
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G01R 31/371

Definition statement

This place covers:

The testing, measuring or monitoring of accumulators or electric batteries where the electric-variable sensing and the display of the result occur in different locations, characterized by different environmental parameters, e.g. temperature, pressure, noise.

The display can be a system with another main function, e.g. a mobile phone, provided that that system does not encompass the battery-sensing element(s), although it could perform a controlling function on these elements.

Another example of subject matter covered in this group is an indicator mounted on a vehicle’s dashboard, indicating the electrical condition of the vehicle’s battery.

Glossary of terms

In this place, the following terms or expressions are used with the meaning indicated:

Remote	Taking place in a different environment than the sensing
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G01R 31/3835

References

References out of a residual place

Examples of places in relation to which this place is residual:

Monitoring battery variables by comparing with a reference voltage	G01R 19/165
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G01R 31/385

References

Limiting references

This place does not cover:

Monitoring of batteries	G01R 31/382
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G01R 31/396

Definition statement

This place covers:

Methods to assess the condition of an individual cell or group or cells in a multi-cell battery, in which data are transmitted to processing means outside the battery, allowing the condition of a subset of cells (e.g. one) within the battery to be determined without dismantling the battery.

Relationships with other classification places

When electrochemical cells are tested or monitored through integrated means, as if they were stand-alone cells, classification is made in subclass [H01M](#). [G01R 31/396](#) covers the collecting and use or processing of data taking place outside the battery, but leading to knowledge of the condition of cells within the battery, without intrusive measurements.

2.A. DEFINITIONS (modified)

Insert: The following changes into the existing Definitions.

G01R 31/00

Special rules of classification

Delete: The entire Special rules of classification section.

G01R 31/08

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Insert: The following rows into the *Informative references* table.

Emergency protective circuit arrangements	H02H
Installing, maintaining, repairing or dismantling electric cables or lines	H02G 1/00
Testing LAN's	H04L 43/50

G01R 31/36

Definition statement

This place covers:

Delete: The existing definition statement:
“Testing of ...state of charge”.

Insert: The following new definition statement:
The testing, measuring or monitoring – through electrical means – of accumulators or electric batteries.

Insert: A new **Relationships with other classification places** section and the following statements:

Relationships with other classification places

G01R 31/36 covers the testing, measuring or monitoring of accumulators or electric batteries taking place through electrical measurements. The testing, measuring or monitoring of batteries making use of other variables, e.g. ultrasonic measurements or chemical analysis of electrolyte, is covered in other subclasses, in particular subclasses G01N or H01M.

In particular, testing or monitoring of fuel cells by analysing reactants or residues is classified in subclass H01M.

Furthermore, electric testing arrangements structurally associated with the batteries are covered by H01M as shown by the references out of the residual place G01R 31/36.

References

Insert: A new **References out of a residual place** section and the following four rows:

References out of a residual place

Examples of places in relation to which this place is residual:

Arrangements for measuring, testing or indicating condition structurally associated with primary cells	H01M 6/50
Detection or assessment of electric variables for controlling fuel cells	H01M 8/04537
Detection of failure or abnormal function in fuel cells	H01M 8/04664
Structurally associated with secondary cells	H01M 10/48

Informative references

Attention is drawn to the following places, which may be of interest for search:

Insert: The following two rows into the **Informative references** table:

Recording operating variables of electrically-propelled vehicles	B60L 3/12
Removing batteries from vehicles	B60S 5/06

Special rules of classification

Delete: The existing statement

“The most specific subgroup ... by crossing subgroups”.

Insert: The following new statement:

In this group, multi-aspect classification is applied, so that subject matter characterised by aspects covered by more than one of its subgroups should be classified in each of those subgroups.

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Synonyms and Keywords

In patent documents the following abbreviations are often used:

Replace: The term “Health” with the term “health” in:

SoH	State of Health
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3. REVISION CONCORDANCE LIST (RCL)

Type*	From CPC Symbol (existing)	To CPC Symbol(s)
D	G01R 2031/3603	<administrative transfer to G01R 31/36>
D	G01R 31/3606	<administrative transfer to G01R 31/382>
D	G01R 31/361	<administrative transfer to G01R 31/3828>
D	G01R 31/3613	<administrative transfer to G01R 31/3832>
D	G01R 31/3617	<administrative transfer to G01R 31/3833>
D	G01R 31/362	<administrative transfer to G01R 31/3835>
D	G01R 31/3624	<administrative transfer to G01R 31/3842>
D	G01R 31/3627	<administrative transfer to G01R 31/385>
D	G01R 31/3631	<administrative transfer to G01R 31/386>
D	G01R 31/3634	<administrative transfer to G01R 31/387>
D	G01R 31/3637	<administrative transfer to G01R 31/388>
D	G01R 31/3641	<administrative transfer to G01R 31/3865>
D	G01R 31/3651	<administrative transfer to G01R 31/367>
D	G01R 31/3655	<administrative transfer to H01M 10/48>
D	G01R 31/3658	<administrative transfer to G01R 31/396>
D	G01R 31/3662	<administrative transfer to G01R 31/389>
D	G01R 31/3665	<administrative transfer to G01R 31/378>
D	G01R 31/3668	<administrative transfer to G01R 31/379>
D	G01R 31/3672	<administrative transfer to G01R 31/38>
D	G01R 31/3675	<administrative transfer to G01R 31/374>
D	G01R 31/3679	<administrative transfer to G01R 31/392>
D	G01R 31/3682	<administrative transfer to G01R 31/3646>
D	G01R 31/3686	<administrative transfer to H01M 10/48>
D	G01R 31/3689	<administrative transfer to G01R 31/371>
D	G01R 31/3693	<administrative transfer to G01R 31/3647>
D	G01R 31/3696	<administrative transfer to G01R 31/364>

* C = entries with modified file scope where reclassification of documents from the entries is involved; Q = new entries which are firstly populated with documents via administrative transfers from deleted (D) entries. Afterwards, the transferred documents into the Q entry will either stay or be moved to more appropriate entries, as determined by intellectual reclassification; D = deleted entries; F = frozen entries will be deleted once reclassification of documents from the entries is completed.

NOTES:

- Only C, D, F, and Q type entries are included in the table above.
- When multiple symbols are included in the “To” column, do not use ranges of symbols.
- For administrative transfer of documents, the following text should be used: “< administrative transfer to XX>”, “<administrative transfer to XX and YY simultaneously>”, or “<administrative transfer to XX, YY, ...and ZZ simultaneously>” when administrative transfer of the same documents is to more than one place.
- Administrative transfer to main trunk groups is assumed to be the source allocation type, unless otherwise indicated.
- Administrative transfer to 2000/Y series groups is assumed to be “additional information”.
- If needed, instructions for allocation type should be indicated within the angle brackets using the abbreviations “ADD” or “INV”: <administrative transfer to XX ADD>, <administrative transfer to XX INV>, or < administrative transfer to XX ADD, YY INV, ... and ZZ ADD simultaneously>.
- In certain situations, the “D” entries of 2000-series or Y-series groups may not require a destination (“To”) symbol, however it is required to specify “<no transfer>” in the “To” column for such cases.
- RCL is not needed for finalisation projects.

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4. CHANGES TO THE CPC-TO-IPC CONCORDANCE LIST (CICL)

<u>CPC</u>	<u>IPC</u>	<u>Action*</u>
G01R 2031/3603		DELETE
G01R 31/3606		DELETE
G01R 31/361		DELETE
G01R 31/3613		DELETE
G01R 31/3617		DELETE
G01R 31/362		DELETE
G01R 31/3624		DELETE
G01R 31/3627		DELETE
G01R 31/3631		DELETE
G01R 31/3634		DELETE
G01R 31/3637		DELETE
G01R 31/364	G01R 31/364	NEW
G01R 31/3641		DELETE
G01R 31/3646	G01R 31/36	NEW
G01R 31/3647	G01R 31/36	NEW
G01R 31/3651		DELETE
G01R 31/3655		DELETE
G01R 31/3658		DELETE
G01R 31/3662		DELETE
G01R 31/3665		DELETE
G01R 31/3668		DELETE
G01R 31/3672		DELETE
G01R 31/367	G01R 31/367	NEW
G01R 31/3675		DELETE
G01R 31/3679		DELETE
G01R 31/3682		DELETE
G01R 31/3686		DELETE
G01R 31/3689		DELETE
G01R 31/3693		DELETE
G01R 31/3696		DELETE
G01R 31/371	G01R 31/371	NEW
G01R 31/374	G01R 31/374	NEW
G01R 31/378	G01R 31/378	NEW
G01R 31/379	G01R 31/379	NEW
G01R 31/38	G01R 31/378	NEW
G01R 31/382	G01R 31/382	NEW
G01R 31/3828	G01R 31/3828	NEW
G01R 31/3832	G01R 31/3832	NEW
G01R 31/3833	G01R 31/3832	NEW
G01R 31/3835	G01R 31/3835	NEW
G01R 31/3842	G01R 31/3842	NEW

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<u>CPC</u>	<u>IPC</u>	<u>Action*</u>
G01R 31/385	G01R 31/385	NEW
G01R 31/386	G01R 31/385	NEW
G01R 31/3865	G01R 31/385	NEW
G01R 31/387	G01R 31/387	NEW
G01R 31/388	G01R 31/388	NEW
G01R 31/389	G01R 31/389	NEW
G01R 31/392	G01R 31/392	NEW
G01R 31/396	G01R 31/396	NEW

*Action column:

- For an (N) or (Q) entry, provide an IPC symbol and complete the Action column with “NEW.”
- For an existing CPC main trunk entry or indexing entry where the existing IPC symbol needs to be changed, provide an updated IPC symbol and complete the Action column with “UPDATED.”
- For a (D) CPC entry or indexing entry complete the Action column with “DELETE.” IPC symbol does not need to be included in the IPC column.
- For an (N) 2000 series CPC entry which is positioned within the main trunk scheme (breakdown code) provide an IPC symbol and complete the action column with “NEW”.
- For an (N) 2000 series CPC entry positioned at the end of the CPC scheme (orthogonal code), with no IPC equivalent, complete the IPC column with “CPCONLY” and complete the action column with “NEW”.

NOTES:

- F symbols are not included in the CICL table above.
- E and M symbols are not included in the CICL table above unless a change to the existing IPC is desired.

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5. CROSS-REFERENCE LIST (CRL)

Definitions references impacted by this revision project

<u>Location of reference to be changed</u>	<u>Referenced subclass or group to be changed</u>	<u>Section of definition</u>	<u>Action; New reference symbol; New text</u>
B60K 35/00	G01R 31/3686	Limiting references	Replace symbol with: H01M 10/48
B60K 37/02	G01R 31/3686	Informative references	Replace symbol with: H01M 10/48
B60L 11/1861	G01R 31/3606	Informative references	Replace symbol with: G01R 31/382
B60L 11/1861	G01R 31/3634	Informative references	Replace symbol with: G01R 31/387
G01K 13/00	G01R 31/3679	Application-oriented references	Replace symbol with: G01R 31/392

NOTES:

- The CRL tables above are used for changes to locations **outside** of the project scope. Changes to references in scheme titles or definitions **inside** the project scope will be reflected in the “scheme change” template or one of the “definition” templates.
- In addition to other changes proposed in the tables above, in the column titled “Referenced subclass or group to be changed,” **referenced** D symbols should indicate an action of “delete” or should indicate a replacement symbol and **referenced** F symbols should indicate a replacement symbol.
- When a reference is deleted, text related to that reference will also be deleted unless other references or a range of references associated with the same text remain.